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AUTHOR Dunn, Lloyd M.
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ABSTRACT

A review of research on the cognitive, linguistic, and scholastic development of mainland Hispanic-American children paints a dismal overall picture. Hispanics are the fastest growing ethnic group in the United States, 11% of the population in 1986; about 75% have Mexican ancestry. Less than half of Latin adults speak English well enough for the workplace, and 18% are illiterate. Studies involving English and Spanish versions of the Peabody Picture Vocabulary Test and other psychometric scales indicate that: (1) on tests given in English, Hispanic pupils consistently obtain an IQ of 88, compared to 85 for Blacks and over 100 for whites; (2) individual intelligence tests given in English predict school success as accurately for Hispanics as for other ethnic groups; (3) in contrast to monolingual agemates in Spain and Latin America, the rate of growth in oral Spanish skills of bilingual Hispanic-Americans falls off sharply with age; and (4) Hispanic-American children also have inferior skills in English. The poor test performance of mainland Hispanic students may be due to (1) test bias against minority group children (this stand is largely an emotional defense reaction); (2) bilingualism as a source of confusion for children with inferior language skills; (3) low socioeconomic status, poor environmental conditions, and rural origins; (4) genetic factors, including race; and (5) ethnic motivational and personality factors. Since bilingual education has failed, Spanish-speaking children should be taught oral Spanish in preschool, and then be immersed in English by age 6. In addition, Hispanic parents must emulate Asian-Americans and accept responsibility for their children's educational outcomes. This report contains 93 references. (SV)

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Bilingual Hispanic Children on the U.S. Mainland: A Review of Research on Their Cognitive, Linguistic, and Scholastic Development

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BILINGUAL HISPANIC CHILDREN ON THE U.S. MAINLAND:

A REVIEW OF RESEARCH

ON THEIR COGNITIVE, LINGUISTIC, AND SCHOLASTIC DEVELOPMENT

Emphasizing studies involving the English- and Spanish-language versions of the Peabody Picture Vocabulary Test--Revised

A Monograph

by

Lloyd M. Dunn, Ph.D.

NOTICE

This monograph should be considered a draft paper. Suggestions for refining it, as well as information on evidence omitted or incorrectly reported are welcomed. Copies of critical reviews, rebuttal papers and relevant articles, etc. would also be appreciated. Please mail your feedback to Lloyd M. Dunn, Box 706, 1525 Wilder Avenue, Honolulu, Hawaii 96822-4614.

To date, the most comprehensive set of critiques of this monograph has taken the form of the following special issue of the Hispanic Journal of Behavioral Sciences:

Fernandez, R. R. (Ed.) (1988). Achievement testing: Science vs ideology. Hispanic Journal of Behavioral Sciences, 10(3), 179-323.

For a balance of views, scholars are strongly urged to study the above issue after reading this draft paper.

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Preface and Acknowledgments

This monograph focuses primarily on a review of research concerning the cognitive, linguistic, and scholastic development of Hispanic children who live on the U.S. mainland. When these girls and boys are viewed as a group, with some exceptions, the overall picture portrayed is a dismal one. Because of the generally negative findings, one approach to writing this report would have been simply to catalog the studies without attempting to interpret the data. In my view, this would have been irresponsible. Therefore, a considerable portion of this paper is devoted to discussing and interrelating the results, and then applying them to education. As a result, much of the paper's content has become "emotionally loaded."

Since not only my interpretations, but also what I have selected to include, involve value judgments, some background information is needed about my credentials. I am a former Canadian who is now a naturalized American senior citizen. My early professional career was in primary and secondary school teaching. This included serving as a first-grade teacher to children who entered school unable to speak English. My later professional career has been devoted to college instruction in school psychology, remedial reading, and special education for disadvantaged pupils who score low on tests of intelligence, and to research involving language development and test construction. I am a fellow of the American Psychological Association, and a past international president of the Council for Exceptional Children.

In the area of psychometrics, I have become increasingly alarmed about malpractices in test development, in the use of tests, and in research involving such scales, especially when children from a minority group are involved. But never before have I felt such a strong ethical need to write a paper to accompany the release of a test with which I am associated. This is because many TVIP users, though certainly not all, may be less well-informed than they would like to be about the psychoeducational characteristics of the various subgroups of Hispanic school children who now reside in the U.S. It is recognized that this body of knowledge has been largely outside the mainstream, up to now. As a result, few psychological examiners, researchers, and educators have been adequately exposed to it while in college. Even those who have this exposure may not have had the opportunity to keep current through reading recent publications. In addition, important, relevant unpublished data involving the test scores of Latin children on the PPVT-R, data that would not have been uncovered by a library search, are included in this report. While I do not expect everyone to agree with my treatment of this complex, controversial, and important topic, I hope that I have brought a reasonably objective and mature perspective to it, and have been fair and honest in reviewing the germane professional literature. As is my style, I have elected not to gloss over unpleasant findings. Whether my being an Anglo has clouded or enhanced my insights must be left to the judgment of individual readers.

Another prefatory comment is needed! This report focuses on group differences. Throughout this article, comparisons of average performance are made among various Hispanic-American subgroups, including Cubans, Mexicans, and Puerto Ricans, as well as Spaniards living in and around Madrid. Furthermore, Latins are compared with non-Hispanic whites, non-Hispanic blacks, native Americans, and Asian Americans, each as a group. The flaw in this approach is obvious. By comparing average performance, one loses sight of the wide range of abilities and disabilities present in each group. Talking about the "average Hispanic" is a risky business. It's like putting one foot in ice water and the other in very hot water, and saying that, on the average, you are very comfortable. Here is another example of the weakness of averages: Alaska has an average elevation of 1,900 feet, which is less that that of Kansas. This average hides the fact that four of the fifteen highest mountains in the U.S. are in Alaska.

But these examples are extreme cases. Most of the group data reported in this monograph are fairly normally distributed, with most of the scores piling up at the mean, and only a few at each of the extreme tails. Furthermore, despite differences among such groups as Latins, Anglos, and blacks, there is always great overlap in distributions of test scores, because humans are more similar than they are different. Every individual is like all other human beings in most characteristics, like others in his or her subculture and racial group in some respects, and like no other in his or her unique traits. This monograph focuses on only ethnic similarities and differences. While it is universally accepted that the ultimate goal of the helping professions, including psychometric examiners, is to understand and assist the unique individual, it can be strongly argued that a knowledge of the group to which that person belongs is a prerequisite. While this contention is the major justification for this report, it needs to be constantly kept in mind that more similarities exist among human beings than differences.

In conclusion, I wish to thank the following persons for reacting to, and editing, early drafts of this paper: James A. Apffel, Mary Bailey, Linley E. Chapman, Samuel A. Kirk, and Gary J. Robertson. Their very helpful contributions are hereby gratefully acknowledged, particularly those of Mary Bailey, freelance editor, who served as editorial coordinator. Especially, I acknowledge the statistical services of J. J. Wang and Rose Brown of the AGS staff, who set aside other chores to provide me with the unpublished PPVT-R data on the performance of the different ethnic groups. Of course, the opinions expressed here do not necessarily reflect the views of these persons.

Lloyd M. Dunn
Fall, 1986

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PART 1

INTRODUCTION

Throughout much of the free world, the United States has been seen as the land of opportunity. As a result, for centuries, people have flocked to these shores from abroad in such large numbers that it has become known as a country of immigrants. While first-generation immigrants often suffered great hardship because of such factors as the language barrier, unfamiliar customs and surroundings, poverty, and lack of education, they sacrificed to provide their offspring with a quality education, so as to provide them with their passport to success. In large measure, the formula worked remarkably well, especially for ex-Europeans and ex-Asians. In addition, for years, our Canadian neighbors to the north, of both English and French ancestry, have come to the U.S. for an education and then stayed on, often to find fame and fortune.

In general, the same cannot be said for our neighbors to the south, especially people from Mexico and Puerto Rico. Most have joined American blacks and native Americans ("American Indians") at the bottom of the socioeconomic ladder, where they have suffered ethnic discrimination and exploitation. In part, this is probably because success is relatively harder to attain in the U.S. today, with such factors as closed frontiers, free world trade, population increases, and urbanization creating greater competition for the good life. But this seems far too simplistic an explanation.

This monograph is devoted to understanding and overcoming the lack of good fortune by Hispanic people on the U.S. mainland. The growing importance and magnitude of the Hispanic challenge cannot be overemphasized. No other segment of the U.S. population is growing at so rapid a rate as the people of Hispanic lineage,* and the trend is accelerating. Between 1980

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*Finding appropriate labels for Hispanic Americans presents a problem, because there is little concensus in the literature

and 1985, the proportion of this ethnic group who were in the U.S. legally increased by 16 percent, while the overall population increased only by 3.3 percent. The birthrate per Hispanic woman is now close to 3.0, while the rate per black woman is 2.4, and the rate per Anglo woman has dropped to 1.7. (Once the birthrate for a group falls below 2.1, the population of that segment of society declines, beginning with its youngest members, as is now happening to non-Hispanic whites.) While the total U.S. population grows older, the Hispanic segment is increasing rapidly and remaining a much younger group. This is largely due to its high birthrate, and to lack of immigration control by the U.S. government.

The implications for society of this dual phenomenon cannot be stressed strongly enough. Here are but two scenarios that could precipitate a crisis. First, unless Hispanic people attain their fair share of success in this country, the growing number of spokespersons among them are likely to press for radical social changes, or at least special privileges. Second, the aging of Americans, often referred to as the "grandparent explosion" and the "human tidal wave of retirees," will place great pressure on the diminishing numbers of workers to support them through Social Security taxes, which could rise to almost half of wages by the turn of the century. But if minority groups, who will make up so much of the work force, are not well educated and cannot command high wages, how can they be expected to bear the burden that will be placed upon them, and at the same time, enjoy the "good life"? Obviously, it is in the best interest of every American to insure a quality education for every Hispanic and other minority pupil, since, in a few years, they will be the wage earners called upon to support the exploding numbers of senior citizens.

It is my hope that this monograph will alert school psychologists, educators, researchers, and policy makers to the seriousness of the challenges that already face society in general and the public schools in particular, and to what lies ahead.

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about acceptable terms. In this monograph, "Hispanic American" is used to include residents of the U.S. mainland (the 48 states) whose native language is Spanish, and whose origins are in Latin America. Not included in this label, for reasons of convenience, are persons of Portuguese descent (who are also Hispanics) and residents of Puerto Rico (who are, of course, American citizens). Also excluded are the relatively small number of native-born Hispanic people whose ancestors have been in this country for decades, even centuries. In this monograph "Latin" and "Hispanic" are used as equivalent terms. The terms "Mexican American" and "Chicano" are also employed interchangeably to include residents of the U.S. who are of Mexican origin. Non-Hispanic whites are called "whites" or "Anglos," and non-Hispanic blacks are called simply "blacks." Furthermore, the terms "illegal immigrants" and "aliens" are used synonymously. To those who find any of these terms objectionable, I apologize; no slight is intended.

Purposes of This Monograph

This monograph is intended primarily for those persons on the U.S. mainland who obtain and use scores based on the Test de Vocabulario en Imágenes Peabody: Adaptación Hispanoamericana (TVIP-H; Dunn, Padilla, Lugo, & Dunn, 1986).* The TVIP-H is an adaptation of the 1981 Peabody Picture Vocabulary Test--Revised (PPVT-R; Dunn & Dunn, 1981).

There are three purposes for this paper. The first is to provide readers with some background information about Hispanic persons living on the U.S. mainland, with emphasis on Latin pupils and their present and future education. The second purpose is to familiarize persons in the helping professions with some of the literature relevant to the psychometric assessment of such children. Although research with instruments other than the Peabody tests is included, studies using both English- and Spanish-language versions of the Peabody tests are emphasized. The third goal is to discuss critical issues in the field of test development as they affect Hispanic pupils, with emphasis on TVIP usage, and to suggest an improved blueprint for the education of these young people.

The appropriate and wise use of scores obtained on standardized tests such as the TVIP, with minority pupils such as Hispanic girls and boys, requires both knowledge and preparation. The information and issues identified and discussed in this monograph are intended to assist interpreters and users of TVIP scores to fulfill their responsibilities.

The first topics presented are the numbers of the various subgroups that make up the Hispanic segment of American society, some of the serious problems and major challenges that confront these American citizens and aliens, and the projected enrollment of Latin students in U.S. public schools by the year 2000.

Demographic and Other Background Information About Hispanic People on the U.S. Mainland

An important tool for studying the current scene and planning future programs of instruction in U.S. public schools is demographics. For persons who administer psychometric

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*The manual for the TVIP-H uses the shorter abbreviation, TVIP. In this monograph, however, the complete abbreviation is necessary in order to distinguish the Test de Vocabulario en Imágenes Peabody--Adaptación Hispanoamericana (TVIP-H), standardized in Mexico and Puerto Rico, from the Test de Vocabulario en Imágenes Peabody--Adaptación Española (TVIP-E), standardized in Spain, as both of these Spanish-language editions are discussed herein.

instruments, and for those who interpret and use the resulting test scores, census data on minorities and the handicapped are especially important, since these groups contribute such a large percentage of referrals. The minority group exerting the greatest overall impact on the schools of the nation today is, in my opinion, Hispanics.

The remainder of Part 1 outlines the present status and emerging trends for this rapidly growing segment of our society. For readers who wish to make a more intensive study of this topic, some demographic sources are listed in the bibliography. The three primary references for this section are the U.S. Bureau of the Census report, Persons of Spanish Origin in the United States (March, 1985); the Ford Foundation bulletin, Hispanics: Challenges and Opportunities (1984); and a Carnegie Foundation paper, Bilingual Education and the Hispanic Challenge (Pifer, 1979). Newspaper articles and TV broadcasts were also used to monitor recent dramatic changes. (See also Oxford et al., 1981; Tucker & Gray, 1980.)

Composition of the Hispanic Population in the United States

In 1984 the Ford Foundation estimated that roughly 20 million Hispanic people, including illegal and undocumented aliens, were residing on the U.S. mainland. This represents about 8 1/2 percent of the population. According to more recent estimates, however, the Ford Foundation figure was too conservative. The U.S. Bureau of the Census (1985) reported 16.9 million documented Hispanic-Americans (an increase of about 16 percent over the 1980 Census figure).

While the actual number of illegal aliens is unknown, the Ford Foundation (1984) estimated their number in 1980 to be about 1.3 million, with more than 70 percent from Mexico. Because of the population explosion and deteriorating economic and political conditions in Mexico, the figures have escalated during the 1980s. In a telephone interview on November 2, 1986, W. Warren of the Statistics Branch of the U.S. Immigration and Naturalization Service (INS) cited a figure of about 5 million illegal Hispanic aliens as a good, conservative, current guess. The net inflow of illegal immigrants from Latin America had increased by 1986 to between 0.2 and 0.5 million per year--no one knows for sure. In the past, many stayed a short time and returned home. Today, most are making the U.S. their permanent residence. The high number of new births to legal and illegal Hispanics each year must also be considered. If these demographic estimates are at all close, then about 25 million Hispanic people were residing on the U.S. mainland in 1986, making up some 11 percent of the total population, rather than the 8.4 percent estimated in the Ford Foundation booklet. (This is in addition to the more than 2 million Hispanic persons who reside in Puerto Rico.)

The result of this recent population explosion is that the Latin segment is growing much younger than the total U.S. population. Therefore, proportionately more Hispanic women are of child-bearing age. For this and other reasons (such as religious beliefs and low socioeconomic status), Latins have far more children than other ethnic or racial groups have, including blacks and Asian-Americans. For many Hispanic women, their fulfillment appears to increase with the number of children born to them in the U.S. These data indicate that Latins will be the fastest-growing segment of the population for the foreseeable future. By the turn of the century, for the overall population, it is projected that more than one in three American residents will be either black, Asian-American, or Hispanic-American, with the number of Latins approaching the number of blacks, and exceeding them shortly thereafter. The crossover is projected to occur between 2005 and 2015 (American Council on Education, 1983). This statistic will be even more dramatic among the school-aged population, as will be shown later.

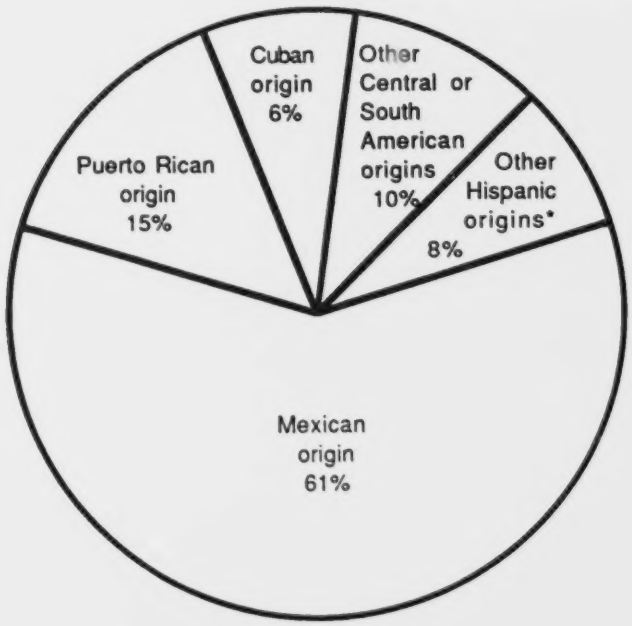
Figure 1.1 shows the country or place of origin of only the 16.9 million Hispanics who were legally in the U.S. as of March, 1985, as documented by the U.S. Census Bureau. Almost two-thirds were from Mexico, followed, in descending order, by those from Puerto Rico and then Cuba. Some 10 percent originated in a variety of other Central and South American countries. The remaining 8 percent did not know or did not report their place of origin. If illegal immigrants had been included, the proportion from Mexico would have more nearly approached 75 percent, with 10 percent of Puerto Rican origin, 4 percent of Cuban origin, 6 percent of other Central and South American origin, and 5 percent of other Hispanic origin. Thus, about 85 percent of mainland U.S. Hispanics have Mexican or Puerto Rican roots.

Hispanics are spread very unevenly across the U.S. mainland, with the largest concentrations in nine states. Of these, two-thirds live in California, Texas, New York, and Florida. The other third are found in the following five states: Illinois, New Jersey, New Mexico, Arizona, and Colorado. In 1985, the U.S. accepted 570,000 legal immigrants. The largest group, consisting of 61,077, were Mexicans. Of this number 42 percent settled in California, 33 percent in Texas, and 9 percent in Illinois. Most of the remaining 16 percent were scattered across the other southern states.

Like the states, cities vary greatly in the proportion of their population that is Hispanic. Some, such as San Antonio and El Paso, are more than 50 percent Latin, predominantly Chicano. Puerto Ricans are concentrated in such Eastern cities as New York and Boston, and some 60 percent of all Cubans in the U.S. live in the Miami area.

Contrary to widespread belief, Hispanics are largely city dwellers, not farm workers. Some 85 percent of all Latins live in urban settings, and this proportion is increasing. (In

Figure 1.1. Distribution by place of origin of the 16.9 million documented Hispanic-American people (excluding unregistered aliens) on the U.S. mainland in 1985.


Cuban origin 6%
Other Central or South American origins 10%
Other Hispanic origins* 8%
Puerto Rican origin 15%
Mexican origin 61%

*"Other Hispanic origins" includes persons who did not know or did not report their place of origin.

Source: U.S. Bureau of the Census, Persons of Spanish origin in the United States: March, 1985. Series P-20, No. 403. Washington, DC: U.S. Department of Commerce.

contrast, Anglos are moving out of the cities to rural and suburban communities, with less than one-third now living in metropolitan areas.) Among Hispanics legally residing in the U.S. in 1982, 49 percent were living in the inner core of major cities, with another 36 percent in other metropolitan areas; only 15 percent were in rural communities.

The precise racial characteristics of Hispanics are difficult, if not impossible, to determine. Most Mexican-Americans have brown skin, resulting from a mixture of Spanish and American-Indian blood. Working-class Puerto Ricans are largely of mixed Spanish and black heritage. This mixing in Mexico and Puerto Rico has been going on for almost four centuries and is widely accepted. In general, the small percentage of pure-blooded Caucasian Hispanics comes from the upper class in Central and South America, including Puerto Rico and Mexico. They usually are the best educated, have the most wealth and power, and seldom emigrate except for political reasons or to acquire an education.

(The first waves of Europeans to come to Central and South America originated in Spain and Portugal. Subsequently, large numbers emigrated from Germany, Italy, and other European countries.)

Most working-class Hispanics who leave for the U.S. are seeking to escape poverty. Except for political refugees, essentially all recent immigrants, especially from Mexico, are very poor, minimally educated, and untrained for skilled jobs. Among the working class, the more ambitious and the young are more likely to emigrate.

Cultural Uniformity and Diversity

In some respects, Hispanic Americans are a homogeneous group. They have much in common because of their shared Spanish language, culture, and customs; their Catholicism, with the resulting large families; their low socioeconomic status, also related to large families; and their racial origins.

In addition, they are likely to retain their unique ethnic characteristics longer than immigrants from Europe and Asia. Six reasons can be given for this phenomenon:

1. At least until recently, there has been a constant circulation of these people from and to their not-too-distant homelands. The 2,000-mile Mexican-American border presents few barriers. Similarly, mainland Puerto Ricans are only a short plane ride from their island heritage, and are legally free to move back and forth.

2. To revitalize their customs. there is a continuous, high rate of new immigrants and visitors from home.

3. Recent-immigrant Hispanics tend to live together within ghetto-like enclaves such as Spanish Harlem and Little Havana. This segregation helps to preserve the culture.

4. The number of Hispanic activists who are striving to retain and strengthen the unique identity of Hispanic Americans has increased. They value pluralism and reject the melting-pot philosophy that was especially strong earlier in the century. The goal of many of these leaders of the bilingual/bicultural movement is a segregated society, not an integrated and unified one. A few extremists, with considerable justification, even envision a separate country for Hispanics carved from the southern U.S. (see Michener, 1985).

5. Intermarriage with other ethnic groups has been discouraged by many Hispanic-American elders.

6. Today less stigma is associated with speaking a foreign language, which results in reduced pressure to lose one's ethnic identity and become assimilated. Instead, one hears that

bilingualism is the edge that is needed to succeed.

In many other respects, Hispanic Americans are a very heterogeneous group. Their different origins tend to keep them apart, as strong national pride makes one subgroup feel superior to all the others. For example, Chicanos point to the early, great Indian civilizations, such as the Mayas, Zapotecs, Toltecs, and Aztecs. Furthermore, until 1848, Mexico was larger than the United States, and included all of Texas, New Mexico, Arizona, California, Nevada, and Utah, as well as parts of Colorado, Kansas, Oklahoma, and Wyoming. Mexicans settled much of the southwest of the U.S., and then had it taken away from them by the stroke of a pen on a treaty that they still consider unfair. Mexicans and Mexican Americans, therefore, feel superior to other Hispanic ethnic groups, since their roots in this country go back to the 16th century.

Other Hispanic subgroups have equally strong pride in their heritage, and do not want to be "combined" with Mexican Americans. Puerto Ricans, for example, are unique among the Hispanic peoples in that they are all U.S. citizens by birth. They also have a long history of serving in the U.S. Armed Forces. From the conclusion of the Spanish-American War in 1898 until 1952, Puerto Rico was a territory of the U.S., and therefore a colony. Since 1952 it has been a self-governing commonwealth. Puerto Rico has representatives in the U.S. Congress, but they have no voting powers. Today, the political status of Puerto Rico is a volatile issue, with some Islanders favoring the status quo, others promoting statehood, and still others calling for independence.

With considerable justification, Cuban Americans in the U.S. feel superior to all other Hispanic subgroups. As a group, they are more prosperous and better educated than Mexican Americans and Puerto Ricans. When Castro took power in Cuba, many members of the middle and upper classes left their home for the U.S., mainly the Miami area. They brought with them their financial, educational, and cultural assets. While their racial and ethnic origins are mixed, many of these people are of mostly Spanish blood.

The rest of the Hispanics, who come from a wide range of other Latin American countries, are like the Cubans in that they span a wide socioeconomic spectrum, many being wealthy and well-educated. In large measure, they had the money and power to escape to the U.S. when long-term dictatorships were overthrown, or when revolutions made life unsafe for them.

Because of two other factors, prejudice and negative attitudes run deep among these Hispanic subgroups, and even within them. In Latin America a socioeconomic hierarchy is determined mainly by wealth, education, and skin color--generally, the greater the wealth, the better the education; and the fairer the complexion, the higher the status. It hardly needs to be pointed out that such a pecking order is not unique to Latin cultures.

Income and Employment of Hispanic Adults

Hispanic families lag far behind non-Hispanic ones in income, a problem exacerbated by the large size of their families. For 1984, the U.S. Bureau of the Census (1985) reported a median income of $18,800 for Hispanic families, in contrast with $27,000 for non-Hispanic families. By subgroups, the lowest median income was for Puerto Rican families at $12,400, and the highest for Cubans at $22,600. The 1984 unemployment rate was 11.3 percent for Hispanics, as contrasted to 7.4 percent for non-Hispanics, including blacks.

Another way to describe the financial plight of this group is through poverty-level statistics. As shown in Figure 1.2, according to the U.S. Census Bureau, the proportion of documented Hispanic families living below the poverty level was more than double that of non-Hispanic families (25 percent versus 11 percent). Of the Latin subgroups, Puerto Rican families had by far the highest poverty rate; Cubans, the lowest.

When individuals are considered instead of families, the picture is worse. For 1985, according to the U.S. Bureau of the Census, 29 percent of Hispanics were in poverty, as contrasted to 31 percent of blacks and 11 percent of whites.

A comprehensive examination of Hispanic employment trends is found in Hispanics and Their Jobs: Barriers to Progress, a 1982 report of the National Commission for Employment Policy. According to this report, most persons of Latin descent are employed in blue-collar jobs, in the service trades, and as laborers. Only 12 percent are in managerial and professional positions, as contrasted to 25 percent for non-Hispanics. (Hispanics fare almost as poorly as blacks in this area.) The three main reasons cited in this report for Hispanics' inability to succeed in the job market were incompetence in English, a low level of formal schooling, and discrimination. Lack of native ability and poor work habits were not listed. Difficulty with English, discussed in detail in the following section, was considered the most important barrier by far.

Hispanics and Their Language Usage

A large number of Latin adults on the U.S. mainland have difficulty communicating in English. Overall, in 1976, among documented Latin adults aged 22 to 51 years, 14 percent spoke only Spanish and another 29 percent normally used Spanish, for a total of 43 percent (National Commission for Employment Policy, 1982). Conversely, 34 percent normally used English and 23 percent spoke only English, for a total of 57 percent. Although difficulty with English was greatest among immigrants, up to 25 percent of Hispanic-American adults born in the U.S. were also having problems with the language. Differences among Mexican Americans, Puerto Ricans, Cuban Americans, and other Latin

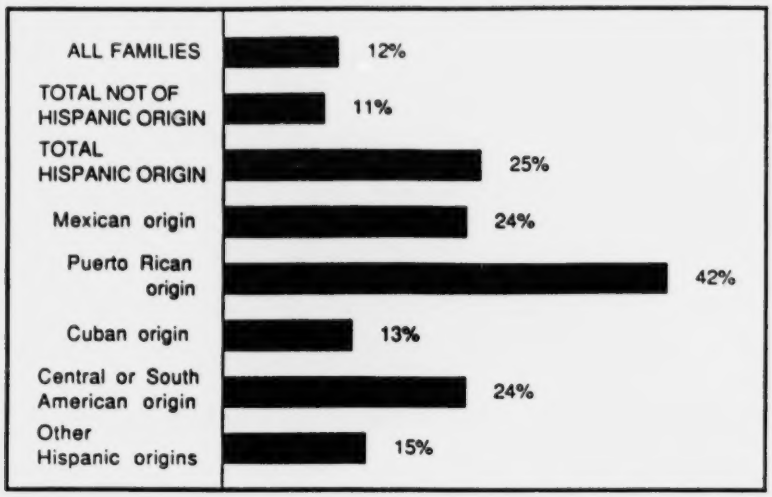


Figure 1.2. Percentage of documented Hispanic-American families on the U.S. mainland, by ethnic subgroup, living below the poverty line in 1984, compared to other American families.

Source: U.S. Bureau of the Census, Persons of Spanish origin in the United States: March, 1985. Series P-20, No. 403. Washington, DC: U.S. Department of Commerce.

Americans were slight. Despite Puerto Rico being a colony or commonwealth of the U.S. since the turn of the century, with English being used as the language of instruction or taught as a second language, more than 90 percent of Puerto Ricans on the U.S. mainland speak Spanish as the preferred language of the home.

(As an aside, it is pointed out here that the language history of Puerto Rico is complex. Spanish was the official language until the U.S. took over in 1898. Compulsory English was introduced into the schools at that time, but the policy of whether to use English or Spanish as the language of instruction has shifted repeatedly since then. Finally, in 1948, Spanish was declared the sole language of instruction, with English mandated, on paper, as a second language from the first grade on. In spite of this, more than 90 percent of Puerto Ricans--on the mainland and on the island--speak only Spanish with any degree of adequacy. One might ask: Why have Puerto Ricans, as a group, failed to learn English adequately? Another question for those who favor statehood for Puerto Rico is this: Should attainment of proficiency in English, by a large percentage of the people, be a prerequisite for statehood?)

For employment and acculturation reasons, it is important for Hispanic Americans to learn English. But problems exist even in their use of Spanish, with each group having its own dialect. For example, the language spoken by lower-class Puerto Ricans is

somewhat different from that heard on the streets of Madrid. The language spoken in Mexico includes an even larger proportion of words that are not universal Spanish. At one stage in the development of the TVIP-H, a 175-item word list agreed to by a group of psychologists in Mexico was submitted to psychologists in Puerto Rico and Spain. Eleven Mexican words (about 6 percent) were rejected because they were not in use in these two locations: eight were ruled out by both the Puerto Rican and Spanish psychologists, and three more by just the Spaniards. This is compatible with the estimate made by a Mexican school official, who said that 5 to 10 percent of the words spoken in Mexico are not universal Spanish (personal interview with J. E. Oropeza, director of the Cancun Diactica Linguistica, January, 1986). Border languages such as "Texmex" are even less close to the Spanish spoken in and around Madrid.

As one would expect, better-educated persons of Latin descent use and understand universal Spanish. No data were found, however, on the Spanish-language proficiency of Hispanic persons employed as teachers in the U.S. One would assume that English was their language of instruction in public school and college, and that their Spanish is mainly a product of the home and community in which they grew up, and largely oral in nature. If so, most are probably not adequately prepared to play a major role in upgrading the spoken and written Spanish-language proficiency of Hispanic students on the U.S. mainland, especially at the advanced levels.

Educational Attainment of Hispanic Adults

The educational attainment of Hispanic persons is especially pertinent to this paper. The scholastic status of adults--their literacy rate and years of schooling--is discussed here in Part 1. Part 2 reviews research findings on the school achievement of Hispanic children and youth. In Part 4 the implications of these findings for current and future educational practices are discussed, including a look at the various bilingual education strategies that are being tried, along with possible reasons for their apparent lack of success.

The scholastic record of Hispanic adults is depressing. A recent U.S. Bureau of the Census report (1985) elaborates on this overall observation. Nearly 18 percent of documented Hispanic adults aged 25 and over are classified as illiterate, compared to 10 percent of blacks and 3 percent of whites. In addition, the school dropout rate for Latins is higher than for either blacks or whites. About half of those over 25 years of age have completed fewer than 11 years of schooling. This is about two years less than for whites, and one and one-half years less than for blacks. In part, this relatively low level of schooling is due to the lack of education of immigrants. Even those born on the U.S. mainland, however, average about one year less schooling than whites.

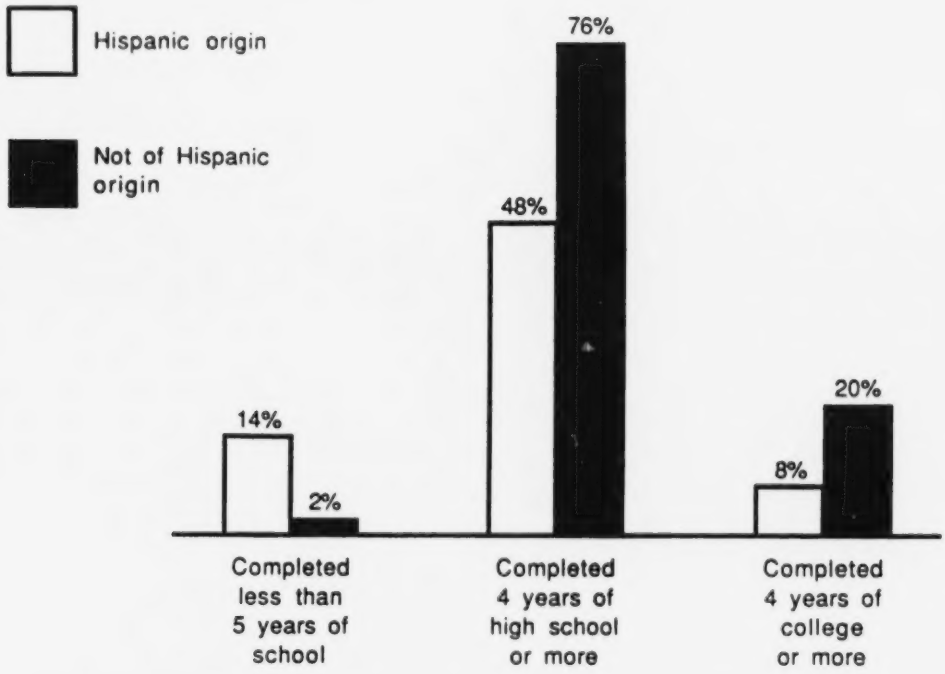


Figure 1.3. Educational attainment of documented Hispanic-American adults living on the U.S. mainland, aged 25 years and older, in 1984.

Source: U.S. Bureau of the Census, Persons of Spanish origin in the United States: March, 1985. Series P-20, No. 403. Washington, DC: U.S. Department of Commerce.

Figure 1.3 shows the educational attainment of Hispanic adults aged 25 and older as of March, 1985, compared to the rest of the U.S. population. Only 48 percent of Hispanic adults had completed four or more years of high school, as contrasted to 76 percent of persons of non-Hispanic origin. Only 8 percent had completed four or more years of college, in comparison to 20 percent of the rest of the population. Mexican Americans have a slightly better record than mainland Puerto Ricans; Cubans and other Latins have a far superior record. Even so, as a group, Hispanics are at the bottom of the educational ladder. Possible reasons for this and some ideas for solutions are addressed in Part 4 of this monograph.

Projections on Future Enrollments of Hispanic Pupils

One additional demographic is most important. Traditionally, and continuing into the 1970s, the ethnic representation in the public schools of the U.S. has been about 85 percent white, about 10 percent black, about 4 percent Hispanic, and about 1 percent all other minorities. The total of all minorities was only about 15 percent. By the 1980 Census, however, the proportion of

whites had dropped to 72.5 percent, while the total for minorities had risen very rapidly to 27.5 percent of individuals under age 14 years. Of these, almost 16 percent were black and 8 percent were Hispanic. The remaining 3.5 percent were from other minorities, such as Asian Americans and American Indians. The increase in the proportion of Hispanics in the public schools has been dramatic, doubling in a decade. Is this trend likely to continue?

As the next century approaches, making predictions about the makeup of the student body in the year 2000 has become increasingly popular (see, e.g., Oxford et al., 1981; Tucker & Gray, 1980). A favorite prediction is that at least one-third of the total student body will be black, Hispanic, and Asian American.

While huge errors in assumptions and therefore predictions can occur, this seems to be far too conservative a forecast, especially at the elementary school level. By plotting elementary school enrollments only, and assuming linearity (an extremely conservative approach), the projections are that the number of Hispanics will be at least as great as that of blacks by the year 2000, each group making up about 17 percent of the school population. By then, Asian Americans and other ethnic and racial minorities should approach 9 percent of the school population. In total, minorities would make up 43 percent of the total group of public school children aged 6 to 14 years. In the meantime, the percentage of non-Hispanic white pupils, which dropped from about 85 percent in 1970 to about 72.5 percent in 1980, will be down to not more than 57 percent by the year 2000, if present birthrate trends continue. Across the land, the variation in the proportions of Hispanics in the schools--from state to state, and from city to city--which is already large, will become huge.

Whether or not these predictions are precisely confirmed, there is no doubt that minority children, especially Latins, are flooding into the nation's schools in increasing numbers. Obviously, in looking ahead to the twenty-first century, the success of the public schools will depend, in large measure, on how well they are able to serve minority children, and in particular, Hispanic Americans. The role of the school psychologist and other users of psychometric tests, such as the TVIP-H, is likely to be crucial.

In Conclusion, A Comparison

By way of contrast, it is worthwhile to examine how Asian Americans are faring in the U.S., in comparison to the unfavorable status of Hispanics. As McLeod (1986) points out, while Mexico sends more legal immigrants to America than any other one country, six of the top ten sources of immigrants to the U.S. are Asian: Vietnam, the Philippines, Korea, China, India, and Laos. More than 250,000 Asian immigrants are admitted

yearly. Some 5 million Asian Americans were residing in the U.S. in 1985. While some are rural laborers, many others are well-educated professionals. As a group, Asian Americans are seen as the "model minority," on a fast track to success, usually doing well without public help. They prize close family ties, advancement through education, and hard work. The success of Asian Americans in the schools and in the economy is well documented by McLeod (1986).

This contrasting picture of the group failure of Hispanic Americans, versus the group success of Asian Americans, must raise a number of hypotheses and observations. A few examples: Why do such huge differences in school achievement exist? How can the same U.S. public schools do such an outstanding job for Asians and such a poor job for Hispanics? How much of the problem rests with the attitudes and learning characteristics of Hispanics, and how much with those of school teachers? To what degree are group differences due to innate abilities versus environmental factors? Seldom, if ever, do authors of articles about Hispanics have the courage even to entertain the hypothesis that the poor performance of Hispanics may be due to a complex interaction of inherited predispositions and environmental factors. Please keep this in mind as you read the results of studies presented in Parts 2 and 3 of this monograph. The dominant question is this: How can public school personnel best help Hispanic girls and boys to become first-rank, productive contributors to American society?

PART 2

STUDIES ON THE SCHOLASTIC, INTELLECTUAL, AND LINGUISTIC ASSESSMENT OF HISPANIC-AMERICAN CHILDREN

(with instruments other than the Peabody tests)

In Part 1, the serious problems that the majority of Hispanic Americans, especially Chicanos and Puerto Ricans, present for themselves and society were well documented. Part 2 examines the professional literature where various instruments other than the Peabody tests were used to measure the school achievement, scholastic aptitude, and language skills of school children of Latin descent. (Studies using Peabody tests are discussed in Part 3.) These facts should be helpful in suggesting possible reasons that so many of this ethnic group are failing. Furthermore, they should begin to point the way toward helpful and realistic programs of study for these pupils.

Some General Findings Based on Early Studies

Professional reports have been accumulating since the 1920s on the results of the intellectual, linguistic, and scholastic assessment of Hispanic-American and other bilingual children. This body of early literature is not extensive, but it is substantial and impressive. (Studying it leads one to ask, what has been found in the past 20 years of research that is completely new?) Unfortunately, many present-day researchers and test users appear to be unaware of the existence of these early reports.

In-depth and historical reviews of many of these early investigations, which were conducted in a variety of countries including the U.S., Canada, and Great Britain, are provided by McCarthy (1930), Arsenian (1937), Darcy (1953, 1963), and Peal and Lambert (1962). Essentially all the frequently cited, classic articles, including those just listed, are reprinted in Cordasco (1978), which also contains an excellent bibliography. Diaz (1983) has recently summarized what these earlier studies

uncovered. While bilingual, bicultural children from some ethnic groups have scored well on psychometric tests, Hispanic Americans generally have not. Though exceptions can be found in each case, listed below are the five major, general findings for Latin children on the U.S. mainland, as a group. Because they are based largely on average scores (central tendencies), they do not reflect the great variability in scores that is always found. Nevertheless, this wide range of scores does not diminish the importance of these general observations:

1. With remarkable consistency, the average intelligence quotient (IQ) of Hispanic-American children on the U.S. mainland has been found to be about 90 or slightly lower, while that of blacks has been close to 85, and that of Anglos slightly above 100. As a result, the distribution of IQ scores for the population, as a whole, has regularly been found to be slightly skewed, with a piling up of scores at the lower end. Scores for Hispanics as a subgroup, however, have tended to be fairly normally distributed. This means as many scores above the mean as below the mean have been found. This 10-point IQ differential between Hispanics and Anglos on the U.S. mainland appears to be a persistent and accurate generalization.

2. There has been a slight tendency for Latin children to score higher on intelligence tests that are more heavily loaded with performance (non-verbal) items than on those demanding more verbal ability. But generally, Hispanics do poorly on both types of tests, and even on so-called "culture-fair" intelligence tests.

3. Whether the intelligence tests were administered in English or in Spanish, in general, the results have tended to be about the same. But there is some evidence that younger children score better when the tests are administered in Spanish, while older children score better when they are administered in English. This is not surprising, since English has been almost exclusively their language of instruction.

4. In general, Hispanic children in the U.S. have displayed a wide range of linguistic disabilities in both English and Spanish, including poor hearing and speaking vocabularies and grammatical weaknesses. Their written composition skills have been found to be especially poor.

5. Hispanic children, as a group, have usually done poorly on measures of school achievement. With some exceptions, their lowest scores have been in the language arts areas and their highest in arithmetic fundamentals.

How are these generally negative findings best explained? Before discussing this question, it is important to determine whether more recent research has resulted in different observations.

Some More Recent Research

The recent proliferation of literature on the scholastic, intellectual, and linguistic assessment of Hispanic-American children will be touched on only briefly here, since the general findings are remarkably similar to the earlier ones.

School Achievement Test Scores

The school achievement of Hispanic-American pupils, especially the performance of high school seniors, provides an optimistic picture of the effectiveness of U.S. public school systems for these children and youth. An excellent review of the literature is provided by Duran (1983), from whom the following data are taken.

Table 2.1. Average achievement test scores of U.S. high school seniors in mathematics, reading, and vocabulary, by ethnic subgroup.

Spring, 1980

Subgroup	Mathematics (N = 4,468)		Reading (N = 4,506)		Vocabulary (N = 4,506)	
	Mean	SD	Mean	SD	Mean	SD
Non-Hispanic whites	11.6	4.0	4.9	2.0	4.8	1.9
Hispanics:						
Cubans	10.1	4.3	3.9	2.1	4.2	1.9
Mexican Americans	8.4	4.0	3.3	1.9	3.5	1.8
Puerto Ricans	8.0	4.6	3.3	2.0	3.5	1.9
Other Latin Americans	8.3	3.9	3.3	1.9	3.6	1.9
Non-Hispanic blacks	7.7	3.8	3.2	2.0	3.2	1.8

Note: Duran did not cite the tests administered, or the nature of the scores, except to say that the scores were weighted.

Primary citation: Nielson, F., & Fernandez, R. M. (1981). High school and beyond study: Achievement of Hispanic students in U.S. schools. Chicago: National Opinion Research Center.

Secondary source: Duran, R. P. (1983). Hispanics' education and background: Predictors of college achievement. New York: College Entrance Examination Board.

Nielson and Fernandez (1981) sampled a large group of high school seniors for school achievement in mathematics, reading, and English vocabulary. (Specific information on the nature of the scores, and the names of the tests, are not provided in Duran.) As shown in Table 2.1, all Hispanic subgroups performed lower than non-Hispanic whites in all areas of achievement that were measured. Overall, Anglos scored about one standard deviation higher than Hispanic pupils. This very large group differential means that, on average, if non-Hispanic whites had a mean standard score of 100, then Hispanics would have one just above 85. Among Latins, pupils of Cuban origin consistently out-performed the other Hispanic subgroups. This study found no significant differences in the performance of Mexican Americans versus Puerto Ricans, except that the Mexican Americans led in mathematics. (Non-Hispanic blacks consistently scored below all other groups.) Since the units of measurement are not consistent across subtests, it is difficult to make comparisons on this dimension.

It is important to note when interpreting these data that the Latin high school seniors were a very select group, because about 50 percent of their Hispanic agemates had already dropped out of school. The overall picture for Hispanic youth, therefore, is far worse than these data indicate, because, as has repeatedly been established, it is usually the poorer students who drop out, or are pushed out, of school after they had passed beyond the compulsory attendance age. (For more evidence on the low school achievement of Hispanic-American high school students, see Duran, 1983.)

The most comprehensive data on Hispanic performance across the grades were in the national survey made over two decades ago by Coleman, Campbell, Hobson, McPartland, Mood, Weinfeld, and York (1966). More recent comprehensive statistics to compare them against would be useful, but none were found.* A crucial question is whether conditions have improved or worsened for pupils of Hispanic descent in the last 20 years. The vast amount of data provided by Coleman et al. makes it difficult to summarize. Figures 2.1 (mathematics) and 2.2 (reading comprehension) both paint a very dark picture of the school achievement of Hispanics in the public schools.

Two conclusions may be drawn from an examination of these figures. First, unlike Nielson and Fernandez (1981), who found the school achievements of Mexican-American and Puerto Rican high school seniors to be about the same, Coleman and his associates (1966) found that Mexican Americans generally achieved at a higher level than Puerto Ricans, who were consistently at the bottom of the charts. However, their performances tended to converge in the twelfth grade, likely because of different dropout rates. Generally, Latins scored almost as low in mathematics as in reading comprehension, which is surprising in that mathematics computation does not demand as high a

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*See Addendum #1 on page 79 for additional information.

proficiency in English. This suggests that lack of scholastic ability, rather than lack of language skills, may have been dominant. Second, since the upward trend in the high school grades probably reflects the selective dropout rate, it would seem generally safe to conclude that, with increasing age, Hispanic pupils as a group, including dropouts, drift further and further behind Anglos in school achievement.

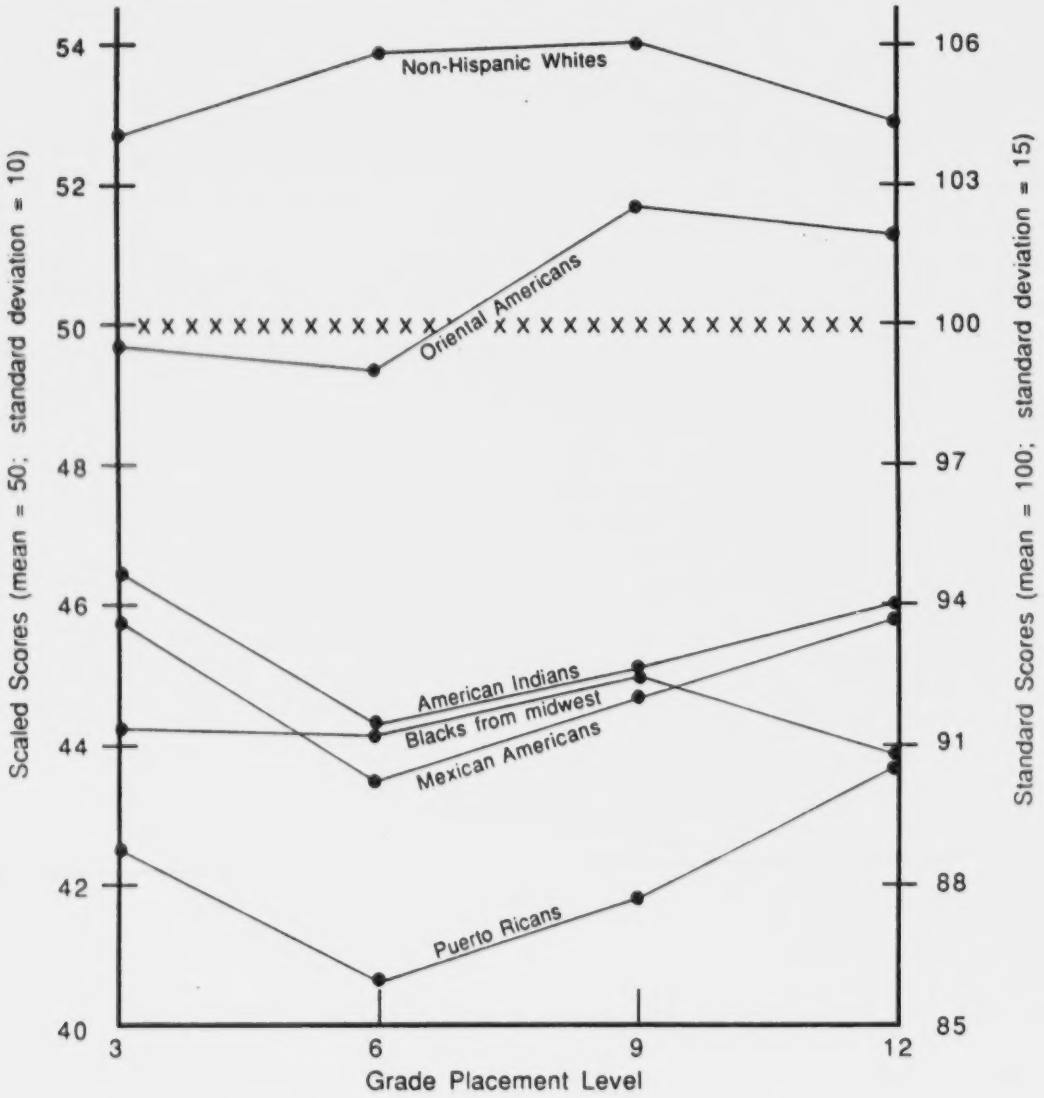

Figure 2.1. Graphic comparisons of mean mathematics achievement test scores, by grade level, for various ethnic groups in U.S. public schools.

Source: Coleman, J. S., Campbell, E. O., Hobson, C. J., McPartland, J., Mood, A. M., Weinfeld, F. D., & York, R. L. (1966). Equality of educational opportunity. Washington, D.C.: U.S. Office of Education.

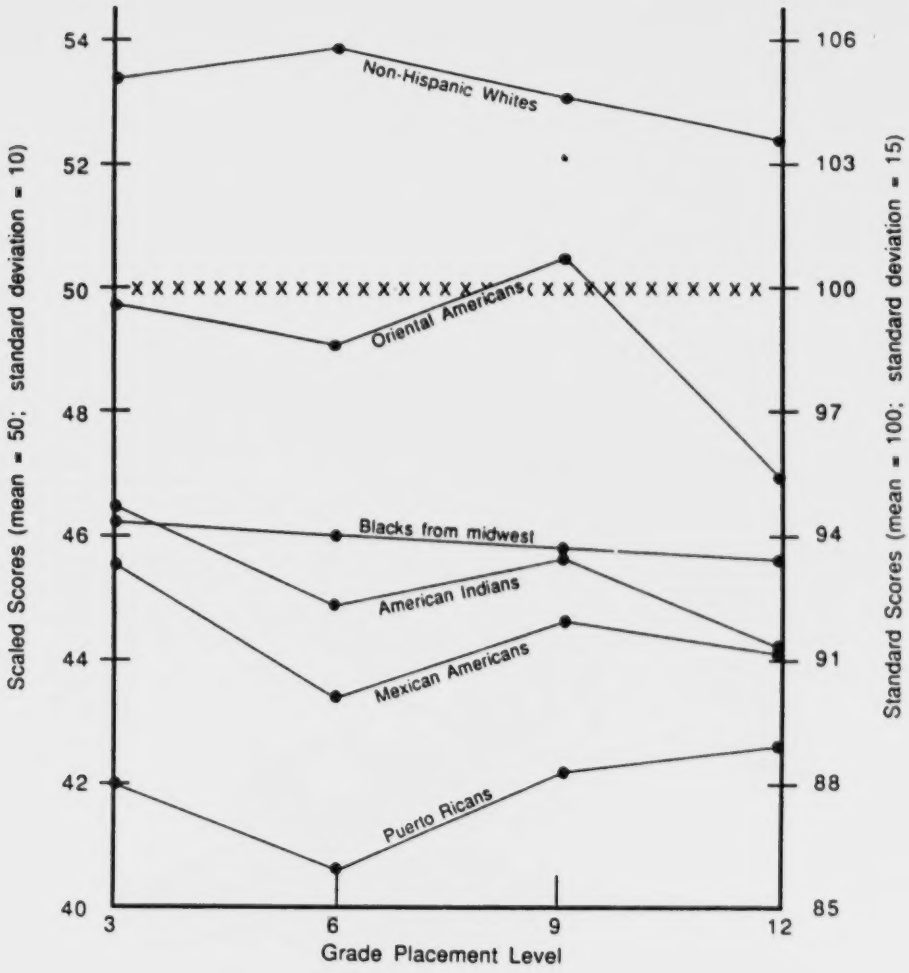

Figure 2.2. Graphic comparisons of mean reading comprehension achievement test scores, by grade level, for various ethnic groups in U.S. public schools.

Source: Coleman, J. S., Campbell, E. O., Hobson, C. J., McPartland, J., Mood, A. M., Weinfeld, F. D., & York, R. L. (1966). Equality of educational opportunity. Washington, D.C.: U.S. Office of Education.

Intelligence Test Scores

A review article by Clarizio (1982) drew together some important and typical literature on this topic, and deserves careful reading. It includes a summary of six recent research reports comparing mean WISC-R score differences of Mexican-American versus Anglo children. For studies where random samples were drawn, the medians and ranges of mean IQ scores are shown in Table 2.2. It should be noted that the ranges are not large, and the median of mean IQ scores is close to the average 10-point IQ differential between Latins and Anglos that was reported earlier for studies done many years ago.

Table 2.2. Mean WISC-R IQ scores from three studies comparing the performance of Mexican-American and Anglo children on the U.S. mainland.

Measure	Mexican Americans			Anglos		
	Verbal	Performance	Full Scale	Verbal	Performance	Full Scale
Median of mean IQ scores	88	95	91	102	104	103
Range of mean IQ scores	85-92	93-98	88-95	101-103	102-106	101-104

Source: Clarizio, H. F. (1982). Intellectual assessment of Hispanic children. Psychology in the Schools, 19, 61-71.

The most extensive study included in Table 2.2 is one conducted by Mercer and Lewis (1979) in developing their System of Multicultural Pluralistic Assessment (SOMPA). Considerable space in this monograph is devoted to the SOMPA system because a number of psychologists who work with minority group children support its use to hide real group differences among the various ethnic groups.

The SOMPA battery measures a child's sensory-motor skills, socio-economic and family conditions, adaptive behavior, and cognitive abilities. It was standardized on 520 Mexican Americans, 456 blacks, and 604 whites, all in California. The mean WISC-R IQ scores and their standard deviations for these three subgroups are shown in Table 2.3. (The mean values closely match those in Table 2.1, which is not surprising, since Clarizio included the data of Mercer and Lewis.) There was no significant difference between the IQ scores of males and females. Furthermore, mean IQ scores over the 5- to 11-year age range did not change appreciably. Since similar results have been produced by several investigators, further studies of this nature would seem to be unnecessary, except to monitor for major changes.

While the Mercer and Lewis data for Hispanics are consistent with earlier research, the scores they reported for blacks are not. Based on past studies, one would predict the mean IQ scores for blacks to be almost 5 points lower than the Mercer and Lewis study found. This difference can probably be attributed to the fact that only blacks in California were tested, since there is evidence that they score higher than a representative sample of blacks from the entire U.S. (Coleman et al., 1966).

Table 2.3. Mean WISC-R IQ scores and standard deviations for Mexican-American, black, and non-Hispanic white school children living in California.

IQ Measure	Hispanics (N = 520)		Blacks (N = 456)		Anglos (N = 604)	
	Mean	SD	Mean	SD	Mean	SD
Verbal	88	15.1	89	13.5	102	14.7
Performance	98	13.2	90	12.8	104	13.8
Full Scale	92	13.3	88	12.5	103	14.1

Source: Mercer, J. R., & Lewis, J. F. (1979). Technical manual for the System of multicultural pluralistic assessment. San Antonio, TX: The Psychological Corporation.

As a result of the low mean scores of blacks and Hispanics, Mercer (1979) has rejected the traditional practice of relying on nationally standardized psychometric tests with one single set of composite norms for a cross-section of the population, including the majority and the minorities, proportionately represented. From her extreme egalitarian perspective, Mercer argues that tests such as the WISC-R are biased against impoverished Mexican-American and other minority-group children, and that no true differences in cognitive ability exist among the various ethnic and racial groups that cannot be accounted for by environmental conditions. Instead, she favors pluralistic norms, with each subgroup having its own set. Norms derived in this way would give each subgroup a mean IQ score of 100. In adopting this strategy, Mercer ignores the wealth of research that has demonstrated that different ethnic groups, such as Anglos, blacks, Chinese, Jews, and others, have different levels and even different patterns of cognitive abilities. Those who advocate the use of pluralistic norms fail to recognize that a main purpose of intelligence tests is to serve as measures of scholastic aptitude so as to predict school success. So, if the single set of regular WISC-R IQ norms accomplishes this equally well for all subgroups, there is no scientific basis for dispensing with it in favor of pluralistic norms.

Clarizio (1982) has reviewed the fairly extensive literature, again yielding quite consistent results, and concluded that composite norms for individual intelligence tests such as the WISC-R predict just as accurately for Hispanic-American as for Anglo school children. Both Hispanics and Anglos who obtain low IQ scores also tend to score low on achievement tests such as the Metropolitan Achievement Test, the California Achievement Test,

and the Iowa Tests of Basic Skills. Since Latins as a group obtain lower IQ scores than Anglos, one can predict that they will also score lower, as a group, on standardized achievement tests. The WISC-R Full Scale IQ score has been found to be the best predictor of school success, with correlations generally in the .60 range. Arguing cogently against Mercer's test bias thesis, Clarizio (1982) concluded that present-day individual intelligence tests are not biased and that minorities should continue to be compared with a cross-section of the population, because they must compete with the total population to succeed in American society.

It is doubtful whether Mercer and Clarizio are as far apart in their thinking as would first appear to be the case. The SOMPA system does use the regular IQ scores derived from the WISC-R norm tables, along with the pluralistic norms. In the SOMPA Student Assessment Manual, it is pointed out that the best single predictor of a child's academic performance in the public schools is his or her test score based on the regular WISC-R norms. It is unfortunate that Mercer and Lewis then proceed to muddy the waters by calling these scores "School Functioning Level" (SFL), a grave misnomer, since a good school achievement test would better provide this.

In the SOMPA system these regular IQ scores are also converted to a second set of IQ scores called "Estimated Learning Potential" (ELP) to arrive at the pluralistic norms. For each minority group, a different number of IQ points is added to the obtained IQ score, depending on family size, family structure, socioeconomic status, urban acculturation, and the ethnic group to which the subject belongs. For example, zero IQ points are added for being white; five are added for being Hispanic. Knowing that the mean IQ difference between Hispanics and Anglos is about 11 points, one can see from this example that Mercer and Lewis consider about half of the 11-point differential to be due to genetic-familial factors, and the other half to be due to sociocultural factors.

Mercer and Lewis state that the ELP scores enable one to make inferences concerning the child's probable potential for future learning. But no evidence is presented in the validity sections of the SOMPA manuals that the ELP IQ scores are better predictors than regular WISC-R IQ scores. In fact, from the review by Clarizio, one can infer that they are worse. So the value of the SOMPA pluralistic norm system for predicting human potential is yet to be demonstrated.

Pluralistic norms do have at least two advantages, however. First, if the cut-off for labeling a child as mentally retarded is an IQ of 70, then about the same percentage of each ethnic group will fall below this score when pluralistic norms are used, namely, about 2 percent. The same percentage of each group will obtain high IQ scores above 130. (Actually, before smoothing, under their scoring system Mercer and Lewis found that 3.84 percent of the Hispanic children obtained pluralistic Full Scale

IQs below 70, and 1.54 percent above 130.) Second, this scoring system, which gives blacks and Hispanics higher IQ scores than they would obtain using standard procedures, may reduce negative attitudes of teachers, including their self-fulfilling prediction that low-IQ ethnic minorities are bound to fail in school. But well-informed interpreters of test scores should arrive at exactly the same conclusion by using tests with single sets of norms, if they are familiar with the professional literature, and allow for mean IQ differences among the various ethnic groups.

There is another line of research with the WISC-R that needs to be carefully examined, and taken into consideration. For decades, translations of the Wechsler scales have been administered in Mexico, using U.S. norms. With the rapid development of special education in that country, the need to establish Mexican WISC-R norms has become critical. During 1980 and 1981, Padilla and his associates (1982) undertook this project. They administered a Spanish translation of the WISC-R to a randomly selected group of 1,100 monolingual children ages 6 to 16, all enrolled in the public schools in and around Mexico City. When the U.S. norms were applied, the mean overall Full Scale IQ was 87.3, with a standard deviation of 13.7. The mean Verbal IQ was 89.2, and the mean Performance IQ was 88.0.

What is notable about these data is how close the Full Scale IQ of 87.3 for Mexican monolingual children is to the Full Scale IQ of 88 reported by Clarizio (1982) for bilingual U.S. Hispanic-American children who were administered the English-language version of the WISC-R. Interpreting this similarity is potentially hazardous. One might say that the WISC-R is a remarkably robust and accurate test of intelligence across languages, cultures, and borders. Another interpretation would be that bilingualism doesn't seem to help or hurt, in the case of Mexican Americans. Another might be that children in and around Mexico City, as a group, are about as intelligent as Mexican-American children in California--no more, no less. Inferences might also be made about similar innate intellectual abilities, the selection process in immigration, and the quality of instruction in Mexico versus California.

Some cynics would simply recommend, with justification, that the Padilla data be ignored as meaningless and beyond interpretation, since the norms that were used in Mexico were based on an English version of the WISC-R and how American children performed on it. Conversely, this author takes the position that the data should be used, with caution, until they are refuted or until better information is obtained. For those who would reject the data because they are not to their liking, it needs to be pointed out that the Performance Scale mean IQ in Mexico of 88 was below the Performance Scale mean IQ of 95 reported in Table 2.1. We will return to these data later in the monograph and relate them to other relevant information.

Language Development Test Scores

To interpret TVIP-H test scores wisely, it is imperative that examiners be well-informed about the language characteristics of Hispanic-American school children. Garcia and Gonzalez (1984) have reviewed the literature dealing with the Spanish and English language acquisition of Latin children in the U.S. and claim that a viable picture is beginning to emerge. A study of that article is recommended for test users who wish to understand this topic.

For users of the TVIP, an important question is whether bilingual Hispanic children on the U.S. mainland continue to develop Spanish skills at the same rate as monolingual children in Mexico and Puerto Rico. Data which address this question are provided in a standardized test of early language development known as the Prueba del Desarrollo Inicial del Lenguaje (PDIL), by Hresko, Reid, and Hammill (1982). This short, 38-item norm-referenced test is administered individually to children aged 3 to 8 years. It measures their Spanish-language receptive and expressive language ability. Separate norms are provided for monolingual children in Mexico, monolingual children in Puerto Rico, and bilingual children on the U.S. mainland. Data abstracted from these norm tables, and depicted in Figures 2.3 and 2.4, provide a comparison of the oral Spanish-language development of young Hispanic children in these three locations.

Figure 2.3 shows the growth, as measured by raw scores on the PDIL, in oral Spanish skills of groups of young Hispanic children living in Mexico, in Puerto Rico, and on the U.S. mainland. Data are most complete for children in Puerto Rico, because the largest number of subjects were tested in this subgroup over a wider age range. The graph line is incomplete and erratic for Mexico, where the sample size was smallest and the age range restricted. Therefore, less credence can be placed on the trend line for Mexican children than on those for the other two groups.

Three observations about Figure 2.3 can be made. First, for children in all three settings, oral Spanish skills continue to develop up to age 7 1/2 years, the upper limit of the test. Second, the rate of growth for Hispanics on the U.S. mainland falls off rapidly, especially after 6 1/2 years of age, as contrasted with children in Puerto Rico. Third, if one extrapolates the graph line down to 3 1/2 years of age for the U.S. mainland subjects, their oral Spanish skills appear to be about equal to those of children of Puerto Rico at age 3 1/2.

Also plotted on Figure 2.3 are estimated Spanish-language ages based on smoothed Puerto Rican norms. Using this frame of reference, the average Hispanic-American child of 7 1/2 years on the U.S. mainland has a Spanish-language proficiency about equal to that of the average Puerto Rican child aged 6 years, 1 month. By age 7 1/2 the U.S. mainland child is already, on the average, almost 1 1/2 years behind her or his monolingual agemates in Puerto Rico.

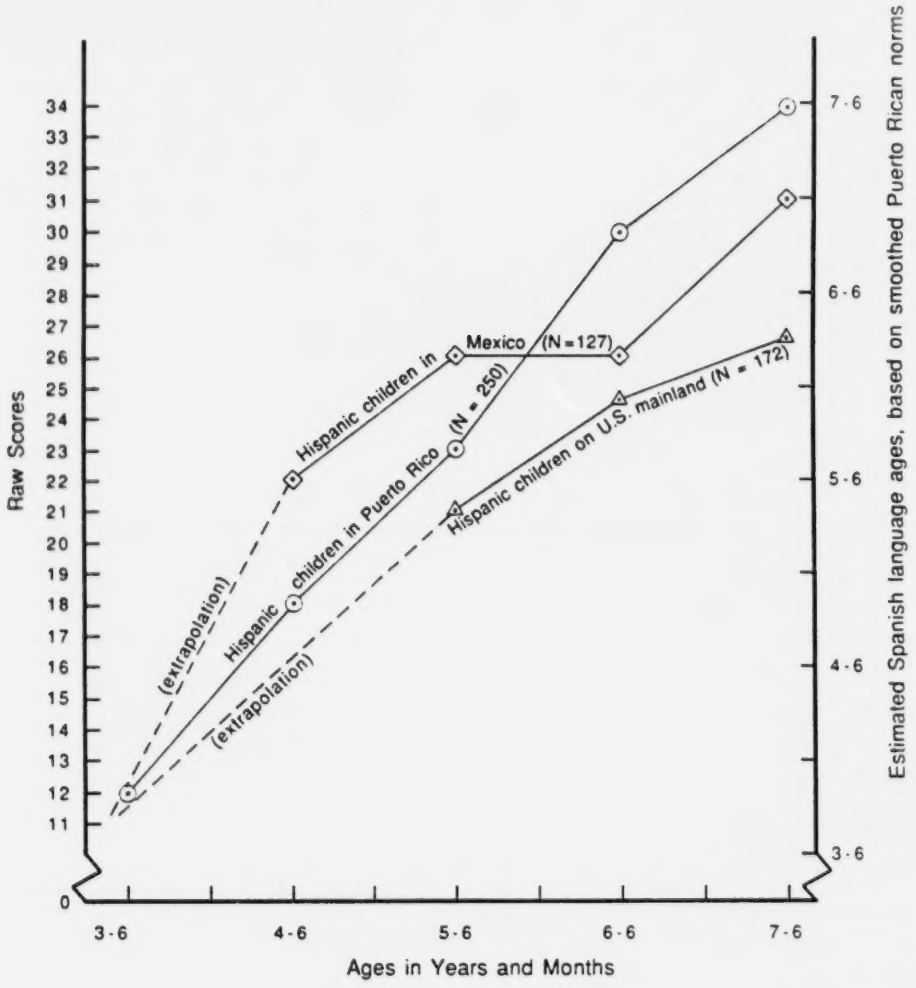

Figure 2.3. Smoothed growth curves for the acquisition of oral Spanish by Hispanic children in Puerto Rico, in Mexico, and on the U.S. mainland, as measured by mean raw scores at progressive age levels on the Prueba del Desarrollo Inicial del Lenguaje (Test of Early Language Development).

Source: Hresko, W. P., Reid, D. K., & Hammill, D. D. (1982). Prueba del Desarrollo Inicial del Lenguaje. Austin, TX: Pro-ed.

Figure 2.4 presents the same PDIL data expressed in standard score units, so as to better illustrate the magnitude of the differential in oral Spanish-language skills between bilingual Hispanic children on the U.S. mainland versus their monolingual agemates in Puerto Rico. (The norms for children in Mexico were not used to develop this graph.) At each of the three age levels--5 1/2, 6 1/2, and 7 1/2--mean raw scores of Hispanic children on the U.S. mainland were converted to standard scores and plotted, using the norms for Puerto Rico. The resulting line shows how far their Spanish proficiency falls

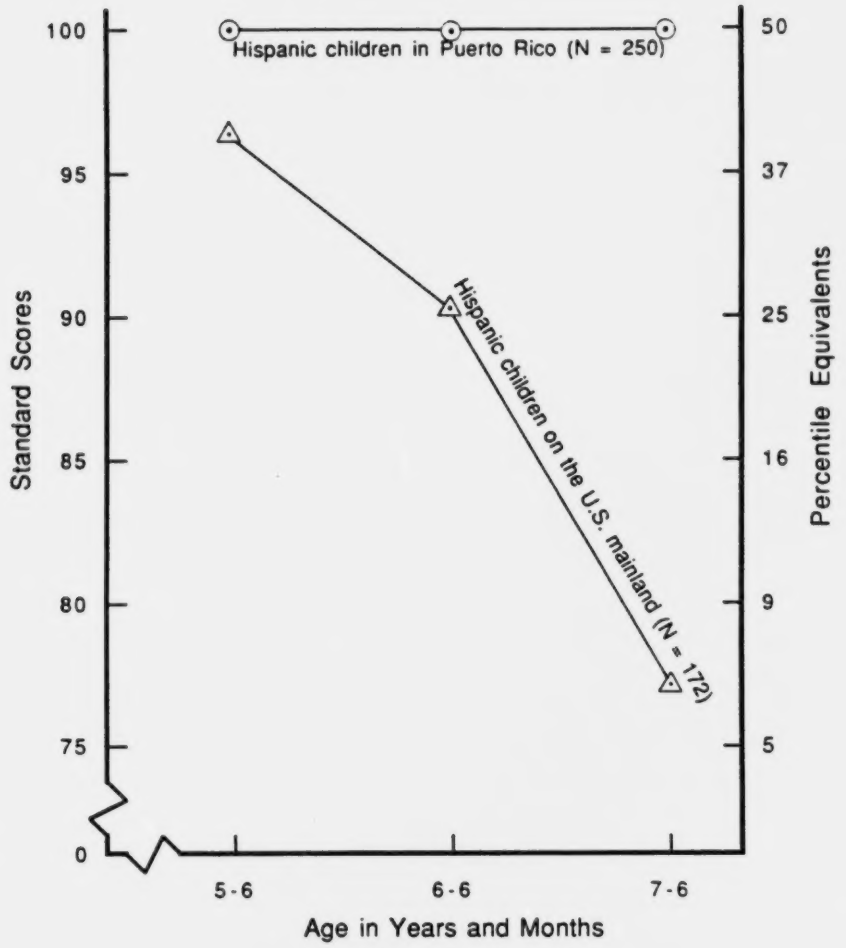

Figure 2.4. Decline in oral Spanish language proficiency of bilingual Hispanic children on the U.S. mainland, contrasted to monolingual Puerto Rican Islanders, using Puerto Rican norms of the Prueba del Desarrollo Inicial del Lenguaje (Test of Early Language Development) as a reference.

Source: Hresko, W. P., Reid, D. K., & Hammill, D. D. (1982). Prueba del Desarrollo Inicial del Lenguaje. Austin, TX: Pro-ed.

below that of the Puerto Rican sample, especially after they reach the elementary grades. By age 7 1/2 years, with only a mean standard score of 77, they are performing at the 6th percentile. In other words, 94 percent of the children at this age level in Puerto Rico are ahead of them. So as early as 7 1/2 years of age, their Spanish-speaking skills are inferior, and the trend line, as the children grow older, is sharply downward.

Obviously, the English-language culture in which these children

live seriously depresses their Spanish language proficiency, judging from the PDIL data. But caution is needed in generalizing from the PDIL data. The test is only a quick screening device, with just 36 questions to cover ages 3 to 7 years. Furthermore, very small numbers of subjects were tested at each level to establish the norms, and the samples were far from random. Only 127 were administered the PDIL in Mexico, 250 in Puerto Rico, and 172 in the U.S.--hardly an adequate standardization. So, collaborative data are needed, and a beginning is reported in the next paragraph.

Two Spanish-language adaptations have been developed from the Illinois Test of Psycholinguistic Abilities (ITPA; Kirk, McCarthy, & Kirk, 1968). The Hispanic-American version (Von Isser & Kirk, 1980) was standardized using subjects in a number of Latin-American countries, including Puerto Rico. Some of the results are as follows: First, scores obtained by children in Latin America were essentially the same, so one set of norms based on monolingual Hispanic children living outside the U.S. mainland was developed. Second, bilingual Cuban children in and around Miami obtained mean scores equal to the monolinguals, as a group, in Latin American countries. Third, bilingual Hispanic children in and around Tucson, Arizona; San Diego, California; and New York City scored significantly lower than monolinguals living in Latin America, and the gap increased with age. As a result of this finding, the U.S. mainland data were not used. Instead, the Hispanic-American norms for the ITPA were based solely on monolingual children in Spanish-speaking countries of Central and South America, including Puerto Rico.

The Spanish version of the ITPA was adapted and standardized by Ballesteros and Cordero (1986). It was administered to 500 children, from ages 3 to 10 years, in and around Madrid. When the manual to this Spanish version of the ITPA becomes available, the statistics from it and from the Hispanic-American version should be analyzed to determine whether they are compatible with the PDIL results, which need to stand until refuted. Their implications for public school instruction are discussed in Part 4 of this monograph. A key question that must be addressed is: Should U.S. public schools concentrate on teaching Spanish speaking, reading, and writing skills to Hispanic children?

Recent Research on the Relationship of Bilingualism to Cognitive Growth

In the first half of the century, as discussed earlier in Part 2, a number of investigators discovered that Hispanic-American children had inferior language skills in both English and Spanish. They often concluded that this was due primarily to bilingualism. Bilingualism was also suspected to have a detrimental effect upon their intellectual functioning. A number of reviewers have criticized these conclusions on four main grounds. First, they pointed out, early researchers failed to control for the socioeconomic status of their subjects. Second,

investigators did not measure and report the level of proficiency of their bilingual subjects in their two languages. Third, they ignored ethnic and racial differences, especially in attitudes toward bilingualism and high achievement. Fourth, they failed to take into account group differences in scholastic aptitude.

Diaz (1983) has written an excellent article examining more recent research that has shown the cognitive advantages of being bilingual. Since his list and description of these studies is recommended reading, they are not enumerated here. Diaz points out that present-day investigators have overcome most of the methodological weaknesses of early studies. Even so, no positive effects of bilingualism have been demonstrated for Hispanic children in the U.S. Instead, generally, the positive influences of bilingualism have usually been found among subjects from the middle and upper classes in non-Latin American cultures, including groups of Canadian, Welsh, German, Swiss, and Jewish children. In a number of cases involving such subjects, experimental children have learned two languages faster than matched control children have learned one language. It is necessary to examine how these new research findings can be seen to be compatible with the continued poor record of Mexican-American and Puerto Rican students in American schools. Four suggestions to account for this have been offered, as follows.

1. One explanation is that children who learn two languages quickly and well have high verbal intelligence. Whereas learning two languages simultaneously may confuse the less able, and/or those with minimum facility in their mother tongue, the more capable have the capacity to learn two languages simultaneously and effectively. Though they may exist, studies correlating specific intellectual factors with dual language skills were not located in preparing this report. Whether the relationship is higher for general ability, or for some specific aptitudes for language learning, remains to be discovered. In any event, the hypothesis must be entertained that many Hispanics on the U.S. mainland lack sufficient general intelligence, or specific linguistic aptitudes, to become proficient in either Spanish or English.

2. A second explanation is that bilingually proficient children become that way because they live in culturally and linguistically stimulating environments, with parents who are well-educated, proficient bilinguals with high expectations for their children's achievement. Only the rare Mexican-American or Puerto Rican child residing in the U.S. is fortunate enough to live in such an environment. Therefore, the hypothesis must be considered that low socioeconomic status, including poorly educated parents as models, is a major factor in explaining the inferior linguistic skills of Hispanic children.

3. A third explanation is more abstract and less credible. It has been argued that early and proficient bilingualism stimulates mental development by fostering an awareness of the arbitrariness of the structure and rules of languages. In short, learning the

grammatical rules of one language facilitates the learning of a second language. This explanation seems to hold more credence for older children and adults learning a foreign language. Many of us, as adolescents and adults, have observed that learning Latin facilitated our knowledge of English, but this does not seem a very promising hypothesis to apply to young Hispanic children.

4. A fourth explanation is that proficiency in two languages enables children to think in two systems, shifting language codes as necessary to solve problems. Freed from the tyranny of a one-language system, capable bilinguals have a problem-solving advantage over monolinguals. But no such facilitating effect is postulated for children whose skills in their mother tongue and/or their second language are inferior, as is the case of most Hispanic-American children.

There is a great temptation to elaborate here on this topic of bilingualism, especially to report on the Canadian experiment where Anglos have been learning French by the immersion approach. Whole books, such as Cummins (1984), have recently been written on the topic. And articles, such as one by McLaughlin (1984), have addressed the question: Are Canadian immersion programs the answer for a bilingual education in the U.S.? Further discussion of this topic is postponed until Part 4, by which time more evidence on the linguistic skills of Hispanic-American children will have been presented.

Megacognition and Metalinguistic Studies Involving Bilingualism: A Broader Look

Some recent researchers working with subjects who are bilingual in English and Spanish have, instead of administering standardized tests, chosen instead more esoteric measures (Diaz, 1983). These are often encompassed under the rubric of metacognition and/or metalinguistics, and deal with phenomena incidental to classic measures of intelligence and language proficiency. Included, for example, are cognitive style, concept formation, and metalinguistic awareness (looking at a language as a set of rules). What has precipitated this shift is unclear, and whether it is a profitable route to pursue is uncertain. A simple explanation may be that these are new buzz words in psychological research, and many want to be "on the cutting edge." Another explanation may be that researchers investigating Hispanics have become so disenchanted with their recurring negative findings that they are searching in other directions in hope of obtaining more positive results.

To give just one example of research in this area, Duncan and De Avila (1979) conducted one of the best studies discovered in the recent literature with Hispanic-American subjects, controlling for levels of language proficiency. Included were inefficient bilinguals (poor in both languages), proficient bilinguals (adept in both languages), and monolinguals of both

languages.* Using the Draw-a-Person Test and the Children's Embedded Figures Test, they compared the cognitive styles of these various groups. They found that the proficient bilinguals demonstrated more positive cognitive styles. The authors concluded that their results supported Cummin's (1976) threshold hypothesis, that a certain level of proficiency in both languages must be attained before bilingualism can show positive effects on cognition.

In my view, this conclusion strikes at the heart of the issue. Among the large number of Hispanic children who are poor in both Spanish and English, very few become proficient monolinguals, let alone bilinguals. Given this finding, what promising modes of instruction logically follow? Should all Latin children be lumped together for instructional purposes? What positive roles can such tests as the English-language PPVT-R and the Spanish-language TVIP-H play in improving educational opportunity for Hispanic children and youth? Readers are encouraged to continue mulling over these questions as they study the discussion of Peabody test scores of Spanish-speaking children presented in the next part of this monograph.

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*It is important to point out the obvious, namely, that these researchers did find Latin children who were efficient bilinguals, and others who were efficient monolinguals in English. This cautions again against labeling all Latin children as inefficient in language, even though this is a general finding for the group as a whole. Once more it must be stated that wide variations exist within this ethnic group in language skills.

PART 3

RESEARCH ON SPANISH-SPEAKING CHILDREN

INVOLVING THE PEABODY TESTS

The bleak picture of the status of Hispanic Americans in the U.S. that emerged from the review of the demographic data in Part 1 was made even darker by the findings of psychological studies examined in Part 2. Instead of contradicting the census figures, this research reinforced them.

As Part 2 shows, Latin children as a group, and particularly those of Puerto Rican and Mexican descent, score low on intelligence tests, the mean IQ being about 88. This results in only about 1 percent being classified as "superior" or "very superior," while some 30 percent fall in the "borderline" or "retarded" categories. A fascinating finding was that monolingual children in Mexico obtain about this same mean IQ score of 88 when tested in Spanish and using U.S. norms. This suggests that bilingualism may not be an adequate explanation for the intellectual slowness of Hispanic children in the United States.

As a group, Hispanic pupils were found to have inferior language skills in both English and Spanish. Furthermore, Mexican Americans and Puerto Ricans on the U.S. mainland scored below average in all areas of school achievement, roughly one standard deviation lower, which yields an achievement quotient of about 85.

Part 3 reviews the scholarly literature on how bilingual Hispanic-American school children, as a group, perform on English and Spanish versions of the Peabody Picture Vocabulary Test, as compared to their monolingual Spanish-speaking agemates in Puerto Rico, Mexico City, and Spain. Will the results of these studies support or refute the findings that have already been presented?

Studies with the Original English-Language PPVT

A number of reports on the performance of Hispanic-American children on the original PPVT have been published (see Dunn, 1959, 1965; Robertson & Eisenberg, 1981), many of them involving Head Start children. Only a representative sample of this

material will be cited here. For example, Corwin (1965), Datta (1967), Price-Williams and Ramirez (1977), and Rieber and Womack (1968) all found that the average hearing vocabulary for English words of Hispanics was below that of children on whom the test was standardized.

In several studies, the investigators gave both the standardized English-language version and a Spanish translation of it, even though they had not determined the difficulty of each Spanish stimulus word, and therefore had no way of knowing whether the Spanish and English words were equivalent. Since no evidence was presented that they were equally difficult, no conclusions can be drawn about the relative vocabularies of the subjects in English versus Spanish, because any differences in performance may be attributed to the different levels of difficulty of the two instruments. Yet some researchers derived normative scores based on raw scores for the Spanish translation, using the norm tables for English words--an example of gross test misuse. Nevertheless, a few studies of this genre are reported here for those who wish to delve into this literature. For example, Thomas (1977), Myers and Goldstein (1979), and Chavez (1982) reported higher scores on the English than on a Spanish version of the original PPVT, which very likely indicates that the Spanish translations they chose were somewhat harder than the English words, though the hypothesis that the children were superior in English cannot be rejected. The results are simply confounded and defy interpretation. Eklund and Scott (1965) concluded that the Mexican-American children in their study lacked proficiency in both languages.

Sattler, Avila, Houston, and Toney (1980) conducted a slightly more sophisticated study by including measures of the extent of bilingualism of their subjects, using scales other than the Peabody. They selected 75 subjects, aged 3 to 12 years, who were about equally competent in English and Spanish. They then found that their subjects scored higher on the Spanish than on the English version of the original PPVT. On the English version, Sattler and associates discovered that the receptive vocabulary skills of Hispanic children improved somewhat with age and years in school, a finding that is compatible with some of the results presented in Part 2 of this monograph. They concluded that the PPVT should not be interpreted as an accurate estimate of the level of general intelligence of Hispanic children whose home language is Spanish, a conclusion with which I, as Peabody senior author, heartily concur, and have pointed out repeatedly in the various PPVT test manuals.

A different type of study was conducted by Hickey (1972). He compared the performance of bilingual, 4-year-old Mexican-American Head Start preschoolers on PPVT stimulus words that were action words (gerunds) versus those that were non-action words (mostly nouns, plus a few adjectives and adverbs). He found that his subjects had greater trouble with the gerunds. By eliminating them, he was able to raise the scores of these subjects substantially. He concluded that bilingual preschoolers

from poor homes had not yet mastered the subtle nuances of English gerunds.

Hickey's findings are not compatible with those found by Jensen (1974). In this most extensive study, using the original PPVT, Jensen studied the performance of 1,663 children in Riverside, California, on the 150-item PPVT and the 36-item Raven's Coloured Progressive Matrices. Riverside is a relatively self-contained, stable, middle-class community of approximately 100,000, situated about 50 miles east of downtown Los Angeles. At the time of the study its population was about 5 percent black, 8 percent Hispanic, and 87 percent Anglo. This percentage of blacks was only about half of the proportion for the nation as a whole, and those included were "more middle class" than the national average. In addition, essentially all the Hispanics were middle-class Mexican Americans; few were poor, recent immigrants from Mexico. So one cannot generalize from Jensen's data to the nation as a whole, where on average the two minorities are less well-to-do.

By ethnic groups, the sample sizes in the Jensen study were 638 whites, 381 blacks, and 644 Mexican Americans, spread in about equal numbers from kindergarten through sixth grade. All the Chicano children spoke English predominantly, though some were from bilingual homes. In certain aspects this is the most impressive study found in the literature involving the original PPVT: the sample size was large, the grade range was wide, and especially, the tests were chosen to measure contrasting abilities. The PPVT, an extremely culturally loaded test, measures only vocabulary in English. Raven's test, which is culturally more neutral, is a nonverbal measure of the ability to see relationships among figures, patterns, and designs. At the upper level, the Raven's test measures pictorial analogies. Yet both tests require the subject to look at art and choose among multiple choices. In both cases, all the subject must do is to point. Jensen notes that PPVT words appeared to be selected and ordered on the "rarity principle" (frequency of usage), whereas Raven items were selected and ordered on the "complexity principle" (amount of mental manipulation needed to solve the item that is posed). There is some truth to this contention in terms of the types of items generated, but it is more accurate to state that items on both tests were ordered by their difficulty level. Not surprisingly, Jensen, by factor analysis, found that the Raven's test had essentially a 100 percent "g" (abstract reasoning) factor loading, while the PPVT was found to divide about equally into the "v" (verbal) factor and the "g" factor.

Raw scores for the PPVT and Raven's test are given in Figure 3.1, by age level, for each of the three ethnic groups. As the figure shows, both ethnic minority groups scored lower than the whites. The two most interesting features of these data are as follows. First, the gap between whites and the minority groups widened with age. If intensive instruction had taken place at school in the areas of language development and problem solving, perhaps this gap would have narrowed. Second, the two minority groups

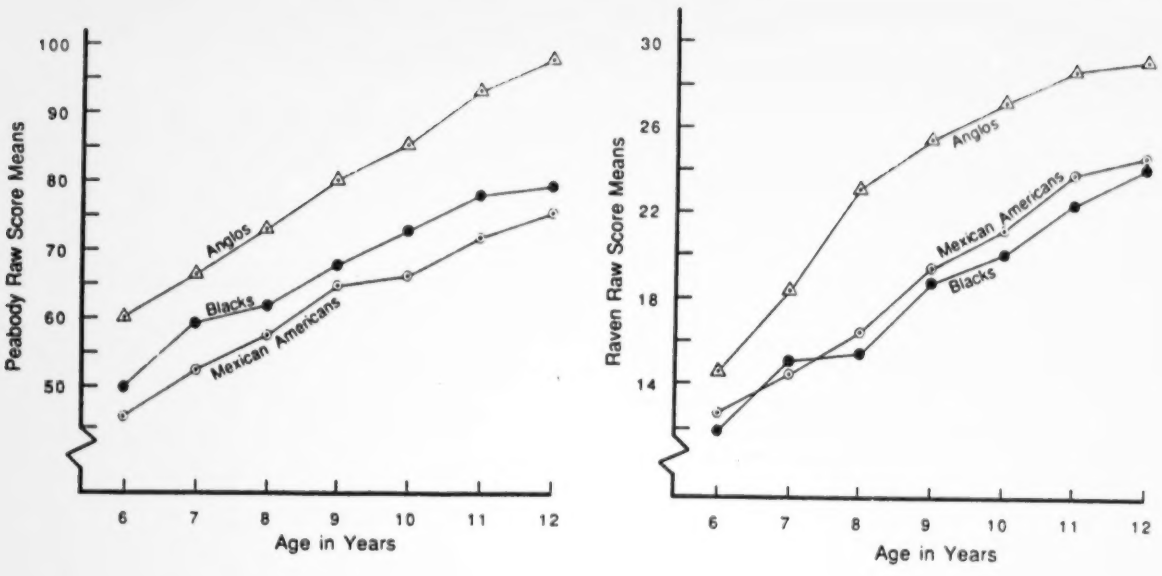

Figure 3.1. Graphic comparison of raw scores on the Peabody Picture Vocabulary Test and Raven's Coloured Progressive Matrices as a function of age for whites, blacks, and Mexican Americans.

Source: Jensen, A. R. (1974). How biased are culture-loaded tests? Genetic Psychology Monographs, 90, 195-244.

are reversed in their relative standings on the two tests: blacks were somewhat superior to Chicanos on the PPVT, but inferior on the Raven test. A partial explanation for this may be that the blacks were completely monolinguistic in English. Another descriptive statistic that emerged from the Jensen report is that, by age 9, the black group was about 2 1/2 years behind the white group and the Chicano group about 3 years behind in English hearing vocabulary, as measured by the original PPVT. The possible cause or causes for this difference, and the means of reducing it, will be addressed in Part 4.

Jensen made a number of other interesting discoveries while analyzing the data obtained from this study, and from a replication of it which is reported in his 1980 book (Jensen, 1980). Only a few are listed here:

1. The PPVT was equally and highly reliable for each of the three ethnic groups (r = .96).

2. The order of difficulty of PPVT items varied little across each of the three ethnic groups, indicating that few if any of the words were biased for or against any ethnic group.

3. The order of difficulty of PPVT items closely matched the mean word frequency data from Thorndike and Lorge (1944), a

classic study.

4. When 36 words from the PPVT were selected to match perfectly in difficulty with the 36 Coloured Matrices items for white males, and the mean raw score differences on these 36 pairs were compared for each ethnic group, only the Mexican Americans, as a group, scored significantly lower on the modified PPVT than on the modified Raven's test. The Hispanic children performed better on the more culturally neutral, nonverbal Raven's test items than on the more culturally loaded, verbal PPVT items. Here is further support for the contention that Mexican-American children have vocabulary weaknesses in standard American English. If one assumes that Raven's test taps latent ability, then the data would suggest that these Mexican-American children have the potential to improve in English hearing vocabulary, given intensive tutoring in this area.

Studies with the English-Language PPVT-R

Research literature on the use of the Peabody Picture Vocabulary Test--Revised (PPVT-R; Dunn & Dunn, 1981) with Hispanic-American children is still rather limited. In their review of this literature, Bracken, Prasse, and McCallum (1984) located only four published articles, all of which are summarized here. The first two studies are of children in regular education and the second two of special education pupils.

1. Argulewicz, Bingenheimer, and Anderson (1983) investigated the concurrent validity of Forms L and M of the PPVT-R for small samples of Anglo-American and Mexican-American children by comparing PPVT-R performance with California Achievement Test (CAT) performance. The subjects were 65 Anglos and 40 Chicanos in regular first through fourth grade classes. All the Chicano children were from lower-class homes where Spanish was the principal language spoken. The major findings were that (1) the mean average standard score for the Anglo-American subjects was 100 and for the Spanish-American subjects was 88, the usual difference of 12 points; (2) the PPVT-R predicted CAT scores equally well for Anglo and Latin children, indicating no test bias; (3) Form L scores predicted CAT scores slightly better than Form M scores; and (4) PPVT-R scores predicted CAT reading scores slightly better that CAT mathematics scores, but overall, the amount of shared variance between PPVT-R and CAT scores was quite small. (The average correlation for reading was .33, for mathematics, .27.)

2. Argulewicz, Anderson, and Bingenheimer (1983) investigated the alternate-form reliability of Forms L and M of the PPVT-R by testing small samples of 63 Anglo-American and 43 Mexican-American elementary school children in the regular grades. The reliability coefficient for Anglos was .74; for Latins, .75. (The average mean standard score for Anglos was 100; for Latins, 87--a difference of 13 points.)

3. Argulewicz and Kush (1983) studied the alternate-form reliability of PPVT-R Forms L and M by testing very small samples of 33 Anglo-American and 15 Mexican-American children, all classified as learning disabled. The mean overall reliability coefficient was .49, with the test being much more reliable for the Chicano children. (The average mean standard score was 97 for Anglos and 75 for Chicanos, a difference of 22 points.) All the subjects had previously been classified as learning disabled.

4. Bracken and Prasse (1982) purported to study the concurrent validity of both the original and revised PPVT for small samples of 46 white, 44 black, and 24 Hispanic children already classified as educable mentally retarded. PPVT-R standard scores were correlated with IQ scores on the individual intelligence tests used to place the subjects in special education programs. The three ethnic groups were equated on these IQ scores, each group having a mean placement IQ of approximately 60, with a very limited range of scores within groups. This design precluded any correlation coefficient of substantial size, with the result that the PPVT-R standard scores and placement IQs correlated only .17 for the total combined sample.

Because of this design flaw, the Bracken and Prasse effort cannot be labeled a validity study. However, the descriptive statistics, graphed in Figure 3.2, are of interest. First, whites out-performed both of the minority groups on the PPVT and PPVT-R, with blacks obtaining higher scores than Hispanics. (These data are consistent with Jensen's data, shown in Figure 3.1.) The size of the differences was essentially the same for the PPVT and PPVT-R. Second, standard scores on the original PPVT were higher than placement IQs, while standard scores on the revised PPVT-R were lower. For Hispanics the drop was 17 standard score points, about the same as for whites and blacks. This is a substantially larger decrease than would have been expected from an examination of the data on pages 48 to 51 of the PPVT-R manual (Dunn & Dunn, 1981), where only an 8-point difference between original and revised PPVT scores is predicted.

From the data in this article, one could conclude that the original PPVT tended to yield standard scores higher than those on the placement IQ test, while the PPVT-R did the opposite for these so-called educable mentally retarded children, a very narrow range of subjects. If these results were replicated for a cross-section of children, it would indicate strongly that the PPVT-R needs renorming. This could result in PPVT-R standard scores being raised, on the average, perhaps 3 to 5 points. However, it must be pointed out that this would in no way effect the difference between Anglos and the various ethnic minorities.

More research, most of which has not appeared as published articles, exists in addition to that reviewed by Bracken and his associates (1984). For example, as cited in the Interpretive Manual to the Kaufman Assessment Battery for Children (K-ABC; Kaufman & Kaufman, 1983), Robertson obtained a mean standard

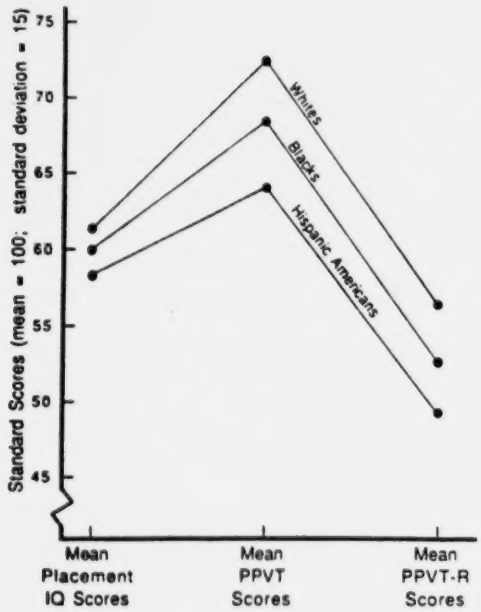

Figure 3.2. Graphic comparison of mean PPVT and PPVT-R standard scores with mean IQ scores used in classifying the subjects as educable mentally retarded for whites, blacks, and Hispanic Americans.

Source: Bracken, B. A., & Prasse, D. P. (1982). Comparison of the PPVT, PPVT-R, and intelligence tests used for the placement of black, white, and Hispanic EMR students. Journal of School Psychology, 19, 304-311.

score of 88 for 156 Hispanic children in the K-ABC standardization sample who were given the PPVT-R. In this case, as a group, Hispanics scored 12 standard score points below the national average.

In another study not reported by Bracken et al., Kamphaus and Lozano (1984) administered Form L of the English-language PPVT-R to 398 Mexican-American pupils in kindergarten through grade 6 enrolled in the Mesa, Arizona, public school system. The primary language in the home was Spanish in 44 percent of the cases; English in 20 percent, and unreported in the remaining 36 percent. The grand mean standard score obtained was 88, with the values ranging from 81 at the second grade level to 94 at the fifth grade level. Again, consistent with other studies over the years, Mexican-American children obtained standard scores that averaged about 12 points lower than the national norms.

For this sample, the primary language of the home was dramatically related to performance on this test of English receptive vocabulary. The mean standard score for those who spoke primarily English in the home was significantly higher than for those who spoke primarily Spanish in the home, 96 versus 87. However, one cannot assume cause and effect from this finding,

because significant difference between the groups in such other factors as socioeconomic conditions, or drive to achieve in school, may have existed.

Kamphaus and Lozano were attempting to develop local norms, but the number of subjects was so small at each age level, and the resulting mean standard scores when plotted were so unlawful, that meaningful local norms could not be developed, and no generalizations could be reached as to whether mean standard scores decrease, increase, or remain the same as a function of age. What was fairly consistent, and therefore of interest, is that the standard deviation of standard scores, in all but one case, was more than 20 at each age and grade level, versus 15 for the national group on whom the PPVT-R was standardized. This indicates greater dispersion of scores, both high and low, for Mexican-American children, at least in this one community. Perhaps this is related somewhat to language of the home, although other factors cannot be ruled out.

The Kamphaus and Lozano investigation should serve to caution others about the possible pitfalls of attempting to develop local norms for specific ethnic groups. Unrepresentative samples, resulting from using small numbers of subjects per age level, can only produce distorted and meaningless local norms. If separate norms for each ethnic group are required, it would seem far wiser to develop national rather than local ones. AGS, the publisher of the PPVT-R, now has sufficient data to produce these, should the demand be great enough to justify the effort and expense.

These AGS data, until now unpublished, are impressive because they are based on test scores obtained in recent national standardizations of tests, they involve very large sample sizes, and they cover a wide age range. The data were generated in the early 1980s, when AGS nationally standardized three individual tests. In every case, the PPVT-R was also administered to all subjects tested for the standardizations. These three tests were the Kaufman Assessment Battery for Children (K-ABC; Kaufman & Kaufman, 1983), the Vineland Adaptive Behavior Scales (Vineland; Sparrow, Balla, & Cicchetti, 1984), and the Kaufman Test of Educational Achievement (K-TEA; Kaufman & Kaufman, 1985).

The total national standardization sample sizes were 2,000 for the K-ABC, 3,000 for the Vineland, and 2,476 for the K-TEA. When combined, these three standardizations provide sufficiently large sample sizes, for each ethnic and racial group, at each age level, to produce stable results. But so as to provide even greater stability, for purposes of this monograph, the data are grouped into three- and four-year age blocks, and data from Forms L and M are pooled. The resulting standard score means and standard deviations are reported, by ethnic and racial subgroups, in Table 3.1, and their means are also plotted, as a function of age, in Figure 3.3. A total of 1,297 subjects were dropped from the pool of 7,476 in order to have correct proportions in each ethnic group, using the 1980 U.S. Census data as the frame of reference.

Table 3.1. Standard score performance on the PPVT-R for three national samples, by race or ethnic group and age.

Age Group	Statistic	Race or Ethnic Group				Averages for Row Totals
		Whites	Hispanics	Blacks	Others	
3-5 years	Mean	100.36	92.68	85.97	95.55	97.57
	SD	15.48	18.95	16.58	19.03	16.85
	N	967	94	186	42	1,289
6-8 years	Mean	100.44	83.48	83.47	97.75	96.23
	SD	15.59	22.77	17.98	15.54	18.24
	N	1,191	153	245	48	1,637
9-11 years	Mean	101.72	85.97	85.11	90.70	97.18
	SD	17.26	20.49	18.57	22.87	19.37
	N	1,298	175	295	56	1,824
12-14 years	Mean	100.29	89.94	86.36	100.29	97.39
	SD	16.38	16.10	19.60	21.30	17.74
	N	545	69	101	17	732
15-18 years	Mean	102.48	94.68	85.94	95.87	99.18
	SD	17.18	19.76	17.53	15.38	18.41
	N	518	59	105	15	697
Averages for column totals	Mean	101.01	87.85	85.08	95.10	97.26
	SD	16.36	20.66	18.03	19.52	18.28
	N	4,519	550	932	178	6,179

Note: In order to have correct proportions for each subgroup, a total of 1,297 subjects were dropped from the pool of 7,476, leaving 6,179.

Source: AGS data on children tested during the standardizations of the K-ABC, Vineland, and K-TEA.

The major findings were as follows:

1. The grand mean standard score on the PPVT-R for the 550 Hispanic children, across all ages, was 87.85, about 12 points below the mean of 100 for the national norm group. As seen in Table 3.1, the overall national PPVT-R mean has dropped from the original 100.00 when the test was standardized in 1979, using ethnic group proportions from the 1970 U.S. Census, to 97.26, based on the subjects selected for the combined K-ABC, Vineland, and K-TEA standardizations, which were chosen to reflect 1980 U.S. Census data showing a larger proportion of minority subjects. This finding should caution those interpreting test scores, both clinicians and researchers, to take into account the date when a test was standardized and in what proportions the minorities were included.

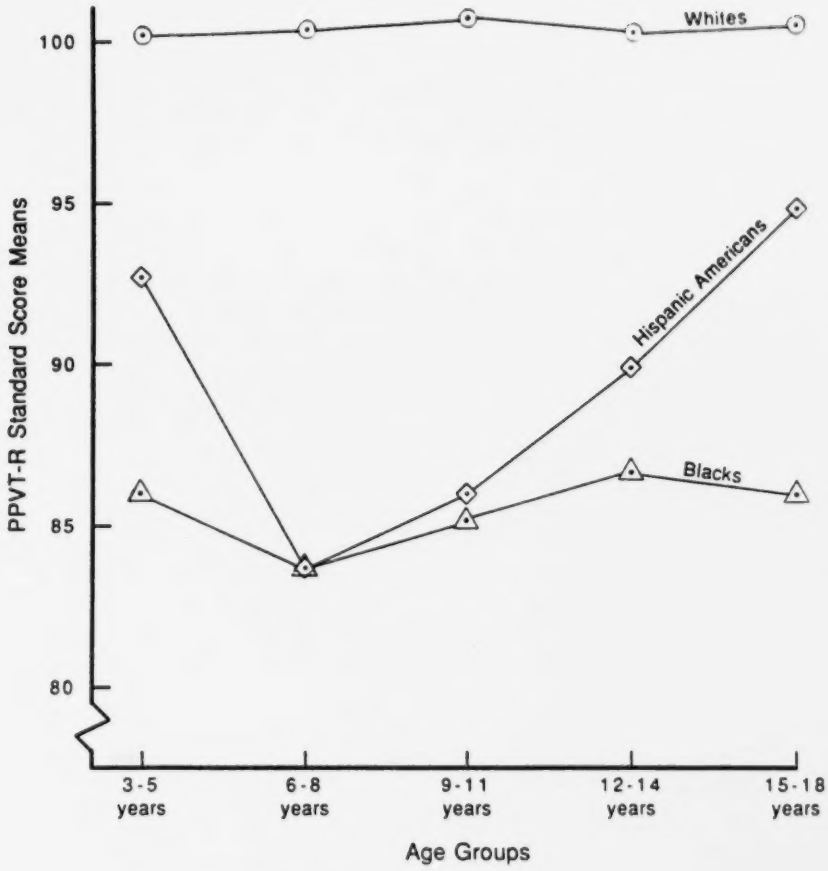

Figure 3.3. Graphic comparison of PPVT-R mean standard scores, by age and race or ethnic group.

Source: AGS data on totals for K-ABC, Vineland, and K-TEA fall and spring (See Table 3.1).

2. The grand standard deviation of standard scores was 20.66 for Hispanics, as compared to 15 for the PPVT-R national norm group and 18.28 for the combined standard scores obtained as a part of the K-ABC, Vineland, and K-TEA standardizations. This is further evidence that the scores of Hispanics are more dispersed than the national norm groups. Table 3.2 dramatizes the seriousness of this when combined with their low mean score of 88. For example, only 1 percent of Hispanics obtained standard scores above 130, in contrast with 5 percent of the general population. Only 16 percent scored above 109, as compared with 33 percent of the general population. If a standard score of 67 were made the cut-off for classifying a child as mentally retarded, 16 percent of Hispanics would qualify, versus only 1 percent of the general population of the same age.

Table 3.2. Percentage of children performing above and below key standard scores, for Hispanics and for the total population, using the performance of Hispanic children in three national standardizations as the frame of reference

Standard Score	Location on Normal Curve	Hispanic Children		All Children	
		Percentage Above Score	Percentage Below Score	Percentage Above Score	Percentage Below Score
130	+2 SD	1	99	5	95
109	+1 SD	16	84	33	67
88	Mean	50	50	79	21
67	-1 SD	84	16	99	1
46	-2 SD	99	1	>99.9	<0.1

3. As shown in Table 3.1, for the combined national samples of subjects tested in standardizing the K-ABC, Vineland, and K-TEA, the mean PPVT-R scores for whites was 101.01; for blacks, 85.08; and for Hispanics, 87.85. (Jensen, as reported earlier, found blacks to score above Chicano children. This incompatible statistic can best be explained by again pointing out that blacks in Riverside were "more middle class" than a national sample of blacks would be.)

4. The graph in Figure 3.3 suggests that Hispanic school children above age 6 are narrowing the gap between themselves and whites in English hearing vocabulary, and that they are doing so faster than blacks, after starting off about equal at ages 6 to 8 years. For Hispanic children in general, however, the actual picture is probably not nearly so bright, because less able Hispanics drop out of school in large numbers once they reach the age at which attendance is no longer compulsory. Generally, only the most able remain in school after age 15 or 16, and many attend school very little after leaving the elementary grades. For purposes of test standardizations, all AGS testing for subjects age 6 and over has been done with representative samples of children and youth actually enrolled in school and tested at school. This selection factor is a far more credible explanation of the shape of the graph than any real gap-closing increases in English hearing vocabulary.

Both Hispanics and blacks experienced a drop in mean standard scores on the PPVT-R between age blocks 3 to 5 and 6 to 8. This can probably best be explained also by the selection factor, but at the nursery school level. Even at the preschool ages, essentially all the children tested in standardizing the K-ABC, Vineland, and K-TEA were attending preschools or nurseries.

Generally, compared to whites, a smaller percentage of Hispanics and blacks send their preschool children to nursery school and kindergarten, and those who do are likely to be the more prosperous families. AGS has been aware of this selection factor, and has handled it somewhat by controlling for socioeconomic status.

Perhaps influences in addition to the selection factor may have been at work. For example, many of the Hispanic-American children may have been enrolled in stimulating Head Start programs where English vocabulary growth was emphasized. This could have produced a spurt that later faded. Nevertheless, the most reliable data reported in Table 3.1 and Figure 3.3 are those for age blocks 6 to 8 and 8 to 11, the elementary school years, and to some degree, age block 12 to 14, when school attendance is compulsory and highest.

This wealth of recent data on the PPVT-R should set the standard against which other test results, obtained through studies of small numbers of subjects, often in one community, ought to be compared. Most research efforts reported in journals are based on small sample sizes, often of a restricted age range, almost always from just one community and sometimes from only one segment of the population, such as the learning-disabled. Under such conditions it is essentially impossible to avoid sampling biases. Unfortunately, few investigators have pointed out how selection factors might explain their results, possibly, in part, because of fear that their article would not be published if they did so.

By way of summary, Figure 3.4 shows a hypothetical growth curve in English hearing vocabulary, as measured by the PPVT-R, for a representative sample of Hispanic chldren on the U.S. mainland. Based upon available data, and assuming non-biased sampling, it is a best estimate of the curve that ought to result if all Hispanic-American children were tested. (Perhaps two additional curves should be added--one optimistic and another pessimistic--to allow for errors in measurement and judgment, because both such errors surely do exist.) This hypothetical performance trend line is presented in contrast to the curve in Figure 3.3, mainly to correct for the failures of AGS to sample adequately Hispanic children who were not enrolled at school. The curve is based on the fact that these children are living in a country where the dominant language is English, on the premise that the use of English as the main language of instruction increases as the pupils grow older, and on the belief that their hearing vocabulary for English gradually improves with age, though more slowly than it does for non-Hispanics.

The main features of this curve are as follows: (1) the mean PPVT-R standard score at age 10 years (the median age reported) is about 86; and (2) English hearing vocabulary, as measured by the PPVT-R, improves gradually from age 3 to age 17, from about the 5th to the 25th percentile, when compared to a cross-section of U.S. children and youth of the same age. This curve shows an

(Text continues on page 45.)

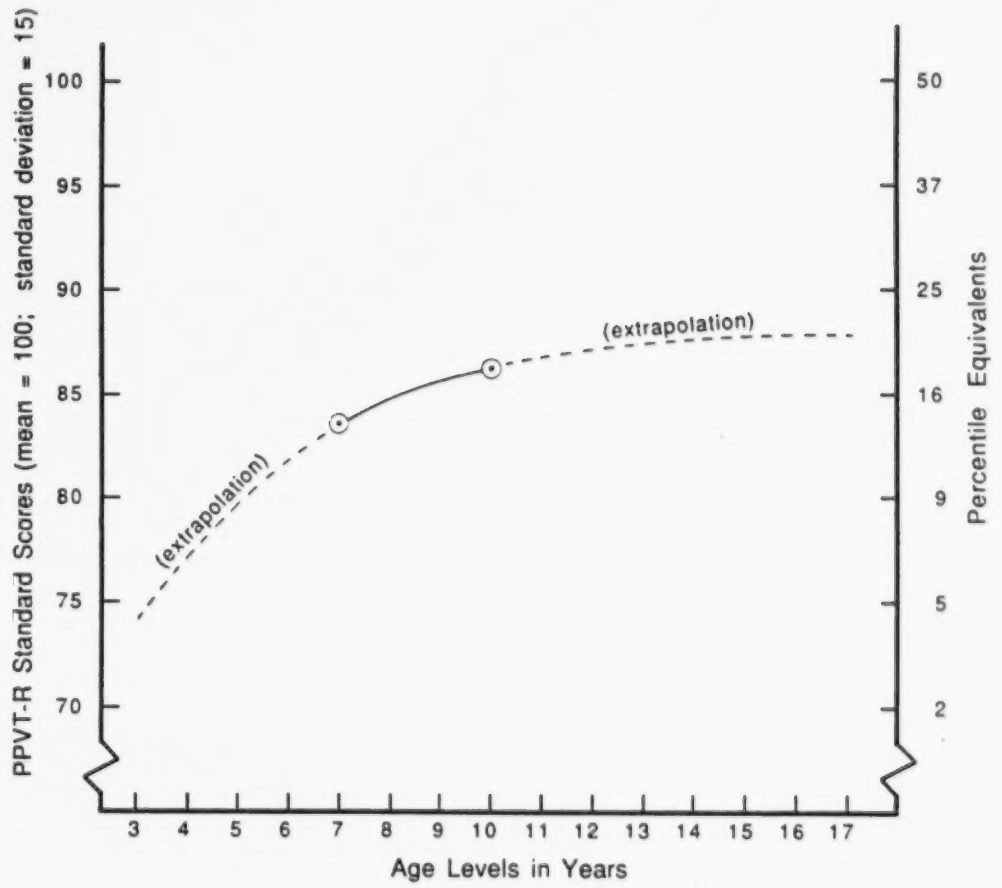

Figure 3.4. Increase in standard scores and percentile equivalents for English hearing vocabulary, as a function of age, for Hispanic-American children on the U.S. mainland. Actual PPVT-R standard scores are plotted between ages 7 and 10 years; below and above this segment, extrapolations are used (see Table 3.1 and Figure 3.3).

Note 1: This curve assumes representative samples of subjects tested at each age level, not just those attending school.

Note 2: The PPVT-R norms were based on 1970 U.S. Census data. If the test were restandardized using 1985 or later census data, with a much larger percentage of all minority groups, it is estimated that the mean standard score of Hispanic children at each age would increase about 3 to 5 points. This mean increase does not indicate an improvement in the hearing vocabulary for Hispanics of English words, since the gap with whites would remain the same, at about 12 or 13 standard score points. The shift upward is only an artifact of the sampling procedures.

overall group average for Hispanic-American children, which represents the performance primarily of Mexican-American and Puerto Rican children (see Figure 1.1). The growth curve for Cubans and other Hispanics would not be nearly as depressed.

Studies with the Spanish-Language Versions of the PPVT-R

So far, this chapter has reviewed the performance of Hispanic-American children on the two English versions of the Peabody test: the original (1959) PPVT and the revised (1981) PPVT-R, both standardized in the U.S. This section discusses research based on two Spanish-language versions of the PPVT-R, both published in 1986. The Hispanic-American version was standardized in Puerto Rico and Mexico City. It is known as the Test de Vocabulario en Imágenes Peabody: Adaptación Hispanoamericana (TVIP-H; Dunn, Padilla, Lugo, & Dunn, 1986). The Spanish version was standardized in and around Madrid, Spain. It is known as the Test de Vocabulario en Imágenes Peabody: Adaptación Española (TVIP-E; Dunn, 1986).* So both of these Spanish-language editions were standardized outside the U.S. mainland, on children who were monolingual in Spanish. The data reported here are drawn from the standardization of these adaptations. At the outset, it needs to be pointed out that no standardization data were obtained on Hispanic-American children residing on the U.S. mainland. However, a limited amount of field testing was done on such children with the TVIP-H during the 1984-85 school year. These data allow for only highly speculative and tentative hypotheses.

People in Spain, especially urban dwellers, fall into three rather separate groups, based on wealth, social class, education of parents, and location of residence. In general, the small upper class (approximately 5 percent of the population) chiefly send their children to exclusive, expensive, private schools, which may be day or boarding schools. The children compete academically within their own class. The fairly large middle class (about 45 percent) mostly send their children to well-run public day schools near their place of residence, or to less expensive, often church-sponsored, private schools. These children also compete, almost exclusively, within their own class. The lower class (about 50 percent) mostly live near or below the poverty level, often in slum-like locations in cities or rural areas. Essentially all lower-class children go to public schools in their own neighborhoods, and seldom compete scholastically with the upper and middle class groups. In that

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*The TVIP-H consists of 125 stimulus words. The final TVIP-E includes these same 125 items (arranged in a different order of difficulty, based on field testing in Madrid), plus 25 more difficult items, for a total of 150 stimulus words.

these three socioeconomic classes almost never attend the same type of school, seldom mingle, and therefore compete very little, one could predict large group differences in their TVIP scores, especially if underlying innate group differences exist.

To test this hypothesis, at one stage in standardizing the Spanish adaptation of the TVIP, 125 stimulus (test) words were administered to groups of lower, middle, and upper class school children in and around Madrid. The exact same list, in the same order, was also administered to agemates in Puerto Rico and Mexico City. Thus, average performance of children in Mexico and Puerto Rico (combined) can be compared with average performance of children within each socioeconomic group in Spain.

Shown graphically in Figure 3.5 are the mean TVIP raw scores, by age, for the three classes of Spanish children, for all Spanish children combined, and for all Mexican and Puerto Rican children combined. Pooling the Mexican and Puerto Rican data was justified because no substantial differences were found between the performance of the two groups of children (see Dunn, Padilla, Lugo, & Dunn, 1986). The slight differences that did develop are best explained by sampling errors.

The major findings are very revealing. First, in general, the children in Spain are far superior to the Hispanic children in Mexico and Puerto Rico in receptive hearing vocabulary for single Spanish words presented individually. Second, in Spain, socioeconomic class (probably influenced by both environmental and inherited factors) exerts a strong influence on hearing vocabulary. By the age of 9 1/2 years, upper class Spanish children, on the average, were already about two and one-half years advanced in vocabulary age over their middle class Spanish agemates, and more than four years advanced over their lower class Spanish agemates. These are indeed huge group differences! Third, Hispanic children in Mexico and Puerto Rico have a Spanish hearing vocabulary about equal to that of children of similar age in one of the worst slum neighborhoods in Madrid. Fourth, by age 9 1/2 years, Hispanic children in Mexico City and Puerto Rico are three years behind their agemates in Spain. This means that, on the average, children aged 7 3/4 in Spain have already acquired the vocabulary that Hispanic children take until age 9 1/2 to develop.

In Figure 3.6 the mean TVIP standard scores and equivalent percentile ranks of three groups are compared graphically. These are monolinguistic Spanish children in Madrid, monolinguistic Hispanic children living in Mexico City and Puerto Rico (combined), and Hispanic-American children residing on the U.S. mainland. For purposes of this international comparative analysis, the TVIP-H norms were used to provide a consistent frame of reference. Therefore, a straight line at standard score 100 (percentile rank 50) marks the mean performance of the children in Mexico and Puerto Rico on whom the test was standardized.

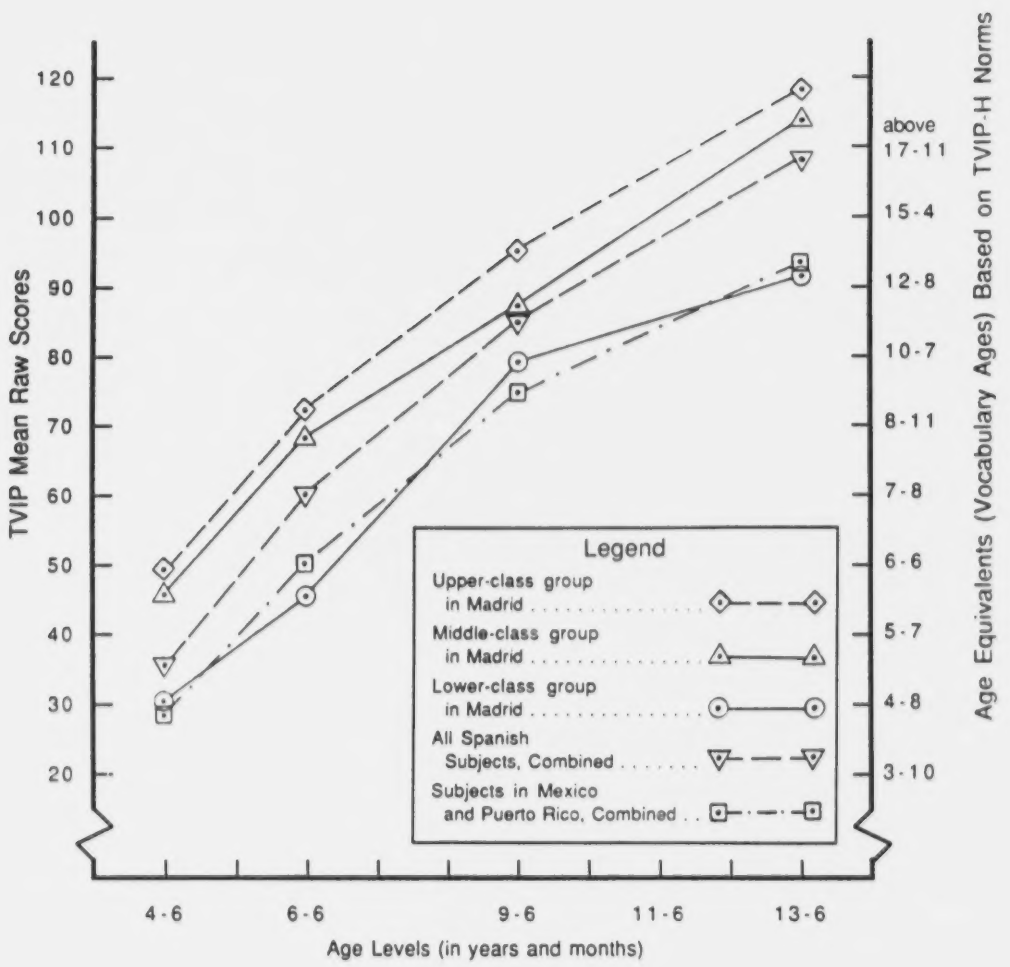

Figure 3.5. Comparison of mean TVIP-H raw scores and age equivalents, by age, for three socioeconomic classes in and around Madrid versus Hispanic children in Mexico and Puerto Rico.

Since the children in Spain were tested with the same 125 items making up the TVIP-H (plus 25 harder items that were disregarded for purposes of this analysis), their comparative performance has also been plotted in Figure 3.6. It will be seen that, in general, the children in Spain exceeded the combined group in Mexico and Puerto Rico by almost one standard deviation, or 15 standard score points. In other words, by adolescence, 84 percent of the children in Spain were scoring at least as well on the TVIP as 50 percent of their agemates in Mexico and Puerto Rico, an average gap in favor of Spanish children over Hispanic children of 34 percentile points. (It will be recalled that this difference is about the same as between blacks and whites in the U.S. on IQ scores obtained on individual intelligence tests.)

The third set of lines in Figure 3.6 are highly tentative and speculative hypothetical performance curves for Hispanic-American children on the U.S. mainland. No hard data were available to

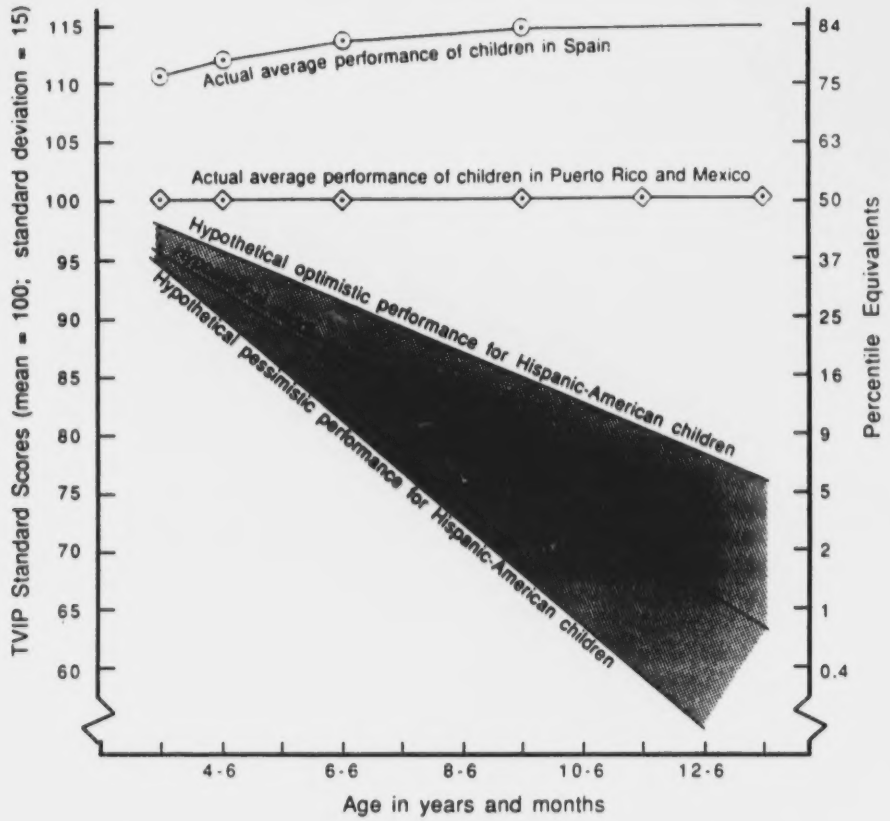

Figure 3.6. Actual TVIP-H mean standard scores and percentile ranks for monolingual children in Spain and in Mexico and Puerto Rico combined, compared to scores of bilingual Hispanic-American children on the U.S. mainland.

plot the performance of these children, since the TVIP was not administered to them at standardization, desirable as this would have been. Instead, two sources of information were used to generate these hypothetical trend lines. One was the scores of Hispanic-American children submitted by school psychologists across the U.S. who field tested the TVIP-H during the 1984-85 school year. This included some field testing conducted in Los Angeles under my direct supervison. The second source of tentative data was the Puerto Rican vs. U.S. mainland Hispanic-American norms provided for the Prueba del Desarrollo Inicial del Lenguaje (PDIL; Hresko, Reid, & Hammill, 1982) and discussed in Part 2. So as to present a more positive picture, extrapolations and estimates were based only on PDIL data for ages 5 and 6, not for age 7.

Because the field test data were so sketchy, and because the PDIL was so inadequately standardized, three trend lines are included in Figure 3.6. One is an optimistic hypothetical curve; another, a pessimistic one; and the third represents a middle ground.

This band width is quite arbitrary but is intended to take into account errors of measurement of the tests and my judgment errors. Because the curves are quite speculative, additional data are required to confirm, refute, or modify them. The conclusions which follow are based on the middle-ground line. Note also that the hypothetical curves in Figure 3.6 are based on the premise that representative samples of all Hispanic-American children, not just those attending school, were included. This makes a more linear trend line. To repeat, if only performance of preschool children attending nurseries and kindergartens were included, and only high school pupils left enrolled in school after large numbers had dropped out, the curve below 6 years and above 11 years would have looked very different (see Figure 3.3).

With these admonitions in mind, the following three observations can be drawn from an examination of the figure.

1. It is probable that 3-year-old Hispanic-American children on the U.S. mainland begin almost equal to, but slightly weaker than, Hispanic children of the same age in Puerto Rico and Mexico City in their understanding of the words they hear in Spanish. This is not surprising, since Spanish is not the language of the home for all Latins residing in the U.S. What is surprising is that as early as age 3 Spanish children are far superior to Latin children in Puerto Rico, in Mexico, and on the U.S. mainland.

2. With increasing age, Latin children on the U.S. mainland fall further and further behind their cohorts in Puerto Rico and Mexico City, as these Hispanic-American children become more and more bilingual, as English becomes the language of instruction, and as they continue to live in an English-speaking nation. By age 12 1/2 years, it is predicted that only about 1 percent of Hispanic children living on the U.S. mainland will understand as much Spanish vocabulary as 50 percent of the children in Puerto Rico and Mexico City, and 84 percent of their Spanish agemates. These are very large group differences.

3. By the time they are approximately 6 years old, monolingual Spanish children outperform monolingual Hispanic children in Puerto Rico and Mexico City by about the same amount as the Hispanic children in Puerto Rico and Mexico City outperform bilingual Hispanic-American children on the U.S. mainland.

The "hard" data in Part 2 clearly demonstrated that Hispanic Americans, as a group, have inferior English hearing vocabularies. The "softer" data here suggest that they also have inferior Spanish vocabularies. Unless contradictory evidence is forthcoming, the conclusion must be reached that Latin pupils on the U.S. mainland, as a group, are inadequate bilinguals. They simply don't understand either English or Spanish well enough to function adequately in school.

PART 4

DISCUSSION

In this part the monograph brings together the data already presented, plus several new topics, to arrive at some conclusions. The issues discussed include the appropriateness of using standardized instruments to evaluate children of minority groups, the adequacy of the TVIP-H norms, possible explanations for the poor performance of Hispanics in standardized tests, and the advantages and disadvantages of various types of bilingual education. At the end of Part 4 is a list of recommendations for improving the education of Hispanic-American children.

Summary of Parts 1, 2, and 3

For a number of reasons, it is dangerous to list research results in the form of a series of brief sentences. For example, seldom is there complete agreement across studies. In addition, one must be selective. Furthermore, reporting results out of context can result in misinterpretation. Nevertheless, with considerable misgiving, such a cataloguing appears here, at the beginning of Part 4, primarily because it is realized that not all busy policy-makers will have time to study the complete monograph in detail, let alone go back to original sources.

Part 1

The review of demographic data in Part 1 revealed the following major findings:

1. Hispanic people, including illegal immigrants, are the fastest-growing segment of the population on the U.S. mainland, making up an estimated 12.6 percent of the total population in 1986, with about 75 percent having Mexican ancestry, and another 10 percent having Puerto Rican ancestry.

2. By the year 2,000, one in three American residents of all ages will be black, Asian American, or Hispanic American, with the number of Latins approaching the number of blacks.

3. In 1985, 25 percent of Hispanics in the U.S. were living in poverty, as contrasted with 31 percent of blacks and 11 percent of whites.

4. Most adults of Latin descent are employed as laborers or blue-collar workers, or are unemployed.

5. Only 57 percent of Latin adults speak English well enough for the workplace. Even their Spanish is largely oral, considerably different from, and less complex than, that spoken on the streets of Madrid.

6. Some 18 percent of documented Hispanic adults in the U.S. are illiterate, compared to 10 percent of blacks and 3 percent of whites, and most of the rest have attended only elementary school.

7. In contrast to Asian Americans, who are seen as the "model minority"--on a fast track to success, largely without public help--Hispanics join the blacks as the minorities at the bottom of the educational, economic, and social ladders, yet all three ethnic groups largely attend the public schools.

8. The proportion of children of Latin descent in the U.S. public schools was only 4 percent in 1970, but had risen to 8 percent by 1980. By the year 2,000, or shortly thereafter, it is projected that 17 percent of pupils enrolled in public elementary school will be Hispanics, at least equal to the number of blacks for the first time. This represents a dramatic and huge enrollment increase.

Part 2

The review of studies in Part 2, involving psychometric scales other than the Peabody tests, led to the following observations about Hispanic pupils on the U.S. mainland:

1. Upon completing the eighth grade, Puerto Ricans have attained an overall grade level of only 5.5 and Chicanos of only 6.3, while Anglos score at the 8.7 grade level. Pupils of Cuban origin consistently out-perform the other Latin subgroups.

2. On intelligence tests given in English, Hispanic-American pupils very consistently obtain a mean IQ of about 88, on the average, in contrast to blacks, who score about 85, and whites, who score above 100. This statistic has not changed significantly in more than 50 years.

3. When the Spanish-language version of an intelligence test (the WISC-R) is given to monolingual children in Mexico City, these children also obtain a mean IQ score close to 88. This statistic permits a number of controversial interpretations.

4. It has been repeatedly demonstrated that individual intelligence tests administered in English predict school success as accurately for Hispanics as for whites and blacks. There is no evidence of test bias.

5. In contrast to children in Puerto Rico and Mexico, who are largely monolingual in Spanish, the rate of growth in oral Spanish skills of bilingual Latins in the U.S. falls off sharply with age. Even by age 7 1/2, Hispanic-American children are 1 1/2 years behind their monolingual agemates in Latin America. It must be concluded that Puerto Rican and Mexican-American school-aged children on the U.S. mainland, as a group, have only a rudimentary knowledge of even oral Spanish.

6. Hispanic-American children also have inferior skills in English. The English among school-aged children, however, is generally superior to their Spanish.

7. Unfortunately, while bilingualism facilitates cognitive and scholastic development for many ethnic groups around the world, no such positive effects have been demonstrated for Hispanic-American children who are inferior in both Spanish and English.

Part 3

Reinforcing these conclusions are the studies with the English- and Spanish-language versions of the Peabody Picture Vocabulary Test, discussed in Part 3. The following points about PPVT results for Hispanic-American children on the U.S. mainland were made:

1. As measured by the original PPVT, Hispanic children as a group had inferior hearing vocabularies for English words when compared to children on whom the test was standardized. The gap between Hispanics and Anglos widened with age.

2. The original PPVT was found to be equally and highly reliable for Chicanos, blacks, and whites, and also not to be biased for or against any of these three ethnic groups in terms of order of item difficulty.

3. The revised PPVT has also been found to be as reliable for Latin as for Anglo children, and to correlate equally well with school achievement scores for these two ethnic groups, predicting reading scores slightly better than arithmetic scores.

4. As a group, Hispanic children obtain a mean standard score of 88 on the revised PPVT-R, but score considerably higher when English is spoken at home. The dispersion of standard scores for Hispanics is higher than for subjects on whom the test was standardized. (There is some evidence that the PPVT-R needs renorming because of the recent increase in immigrants and reduction in proportion of Anglos. This could raise the mean standard score of Hispanics from 88 to about 91-93, but the mean difference between Latins and Anglos would remain the same at approximately 13 standard score points.)

5. When hearing vocabulary for Spanish words was measured by two

adaptations of the PPVT-R, the Test de Vocabulario en Imágenes Peabody, Spanish version (TVIP-E) and Hispanic version (TVIP-H), it was found that, by a wide margin, monolingual children in and around Madrid, in general, outperformed monolingual children in Mexico and Puerto Rico. The average scores of children in Mexico City and Puerto Rico were essentially equivalent, about equal to that of lower-class children in Spain who live in slum conditions.

6. Based on the limited data currently available, it would appear that Hispanic-American children on the U.S. mainland begin at age 3 years with a Spanish hearing vocabulary about equal to their agemates in Mexico and Puerto Rico, but even by age 6, children in Spain are far superior to children in Latin America, who in turn are far superior to Hispanic-American, so-called "bilingual" children. This divergence continues through adolescence.

The overall conclusion from available test data is that Latin pupils on the U.S. mainland, in general, are inadequate bilinguals. They simply do not understand either English or Spanish well enough to function adequately in school.

The summary statements above are made for Hispanic-American children, as one omnibus group. But actually they refer mainly to pupils of Mexican and Puerto Rican ancestry who make up about 85 percent of this ethnic group. In general, Cubans and other Hispanic and Spanish subgroups living in the U.S. perform better.

Responsibilities of TVIP Users

The current concern of many persons in the U.S. about the injudicious and negligent use of psychometric instruments with school children, especially those from minority groups, is widespread and deep. Many believe that psychometric tests, such as the PPVT and its offspring, do more harm than good because they constitute an unfair obstacle to advancement in our schools and society. Much of this growing distrust is prompted by egregious individual cases of malpractice. More and more often, legal charges are being lodged against those few examiners, educators, and others who engage in casual and uninformed interpretation of test results. Similar charges could be made against careless test developers, although they have not yet been brought to court. Equally guilty of malpractice are the handful of researchers who reach naive conclusions based on small, unrepresentative samples of subjects, and who display an inadequate knowledge of the relevant literature.

The first three chapters of Jensen's Bias in Mental Testing (1980) detail numerous specific accusations that have been made about test bias and test misuse with Hispanic and other minority group children. Except for a few examples, they are not repeated here. Generally, it is charged that examiners use test scores to make negative, rather than positive, interpretations and

recommendations. Instead of screening all Hispanic children to identify underachieving but potentially capable students, tests are more often administered to pupils believed by teachers to be incompetent. The examiner is then called upon to verify these beliefs, thereby fulfilling the teacher's low expectations for these children of Latin descent.

Even more damaging is the use of test results to aid in the capricious classification of excessive numbers of minority group children as mentally retarded or learning-disabled, and the resulting recommendation of school placement in segregated special education programs, which are often harmful to the children. For example, in recent years, some 40 percent of children labeled "mildly mentally retarded" in California were Mexican Americans, about three times more than would be expected from their proportion in the school-aged population.

As another example, many psychologists, speech therapists, and remedial educators who test pupils tend to identify weaknesses and then concentrate on programs of instruction to remediate these problem areas, rather than search for strengths and then design school programs to foster them. With regard to academic skills, it is widely accepted that people are likely to do better if they develop according to their abilities, not their disabilities. (Whether this general principle should be applied to the language of instruction in the U.S. public schools can be hotly debated; this issue is discussed later.)

These few examples are only illustrative of the long list of charges of test misuse which Jensen has assembled. All warrant careful consideration. Some may be frivolous, but most are serious accusations, and must be carefully guarded against. Yet imprecise, imperfect, and misused as tests are, reasons for their continued use far outweigh those for their abandonment. As a long-term developer of standardized tests such as the PIAT, PPVT, and TVIP, and for reasons cited below, I am one of those who believe the present tests should continue to be used until better ones have been created--but with great caution. Allow me to explain why.

There is widespread debate about whether education is an art or a science. At this stage, it would seem appropriate to call it an art built largely on a philosophical foundation, but with some underlying scientific components. To decide whether education is becoming more scientifically based, we must take a broad look at the status of human knowledge. Our understanding of the universe, and more especially of humankind, has been enhanced by philosophical treatises, especially in generating theories and hypotheses for scientific testing. An early example is Aristotle's work entitled <u>On Man in the Universe.</u> Yet the most rapid strides have occurred because of the application of the scientific method, predominantly in the basic physical and biological sciences, but also, to some extent, in the more applied social and behavioral sciences. In spite of the arguments for qualitative research, advances in knowledge have

usually followed advances in the ability to measure some phenomenon with a fair degree of accuracy. Lord Kelvin (1824-1907), a mathematician and a father of modern physics, summed up the need for quantification as follows:

> When you can measure what you are speaking about, and can express it in numbers, you know something about it, and when you cannot measure it, when you cannot express it in numbers, your knowledge is of a meagre and unsatisfactory kind. It may be the beginning of knowledge, but you have scarcely, in your thought, advanced to the state of science.

Today, measurement in the pure sciences has reached unforeseen heights of precision, permitting spectacular advances. The same, however, cannot be said for the behavioral sciences, which are particulary plagued by large errors of measurement. Nevertheless, slow progress is being made in the development of sophisticated and precise tools of measurement in psychology, and the allied field of education. As a result, educators are increasingly basing their practices on data acquired through research, often performed by psychologists working with school children as subjects. This represents an advance toward the scientific treatment of educational problems during the twentieth century that has been greater than in all previous centuries combined. A new science of education is beginning to emerge out of the art of education. With psychology as the major research profession, and psychometric tests as the chief tool, the foundations for this science are being slowly built. Therefore, to abandon the use of psychometric tests at this point would, in my view, be a step backward.

But much remains to be done. Even today, especially in regard to education for minorities (including Hispanic children), many influential persons advocate settling critical educational problems by means of philosophical arguments, often based solely upon emotionally loaded opinions and beliefs. Although the importance of a philosophical rationale is undeniable, it is unfortunate that it should be allowed to replace the objective, unbiased, fairly accurate measures of pupil characteristics and school progress that are available through the use of psychometric tests. While far from perfect, these tools permit at least some decisions to be based on facts rather than opinion, especially if allowances are made for measurement errors, and results are interpreted with caution and wisdom. I firmly believe that the only sound way to improve educational services is to base them on scientific evidence. To those who respond that the tests are still so imprecise, imperfect, and biased that their use should be tabled until more valid instruments are developed, I point out that they are not so bad as to justify abandoning them and leaving a vacuum. Certainly, efforts to improve tests must continue. Yet it is my suspicion that many of those who advocate the abandonment of current tests do so because they cannot face the hard, negative realities, as in the case of the poor performance on these tests by Hispanic-American

children, and the ineffective attempts at teaching them through various versions of bilingual education.

Issues Concerning the TVIP-H Norms

While some tests are better than others, there has never been and never will be a perfectly standardized psychometric test. Even upon its completion, and certainly after research has been published on its reliability, validity, and utility, the test developer and publisher are aware of ways the test could be improved. One potential limitation of the TVIP-H is the lack of U.S. mainland norms. This section elaborates on the standardization section of the TVIP-H manual (Dunn, Padilla, Lugo, & Dunn, 1986), in explaining why this test was standardized in the way it was, and the consequences of this procedure, versus other strategies that might have been adopted.

Standardized tests must meet three main conditions. First, different examiners, at different times and in different places, must be able to administer and score them in precisely the same way. Second, performance must be reported in numerical scores, known as norms, that are derived from raw scores. These norms are based upon the test performance of representative groups of persons, usually by age levels or grade levels, against which the scores of an individual, tested weeks or years later, can be compared. Norms, therefore, are descriptive statistics that provide standards for comparison. Third, data must be provided to show that the validity and reliability of the test are acceptable.

Most of the controversy over standardized tests centers on the nature of the norms and how they were obtained. The TVIP-H is no exception. The following questions are typical of those that arise, and these will be discussed, in turn:

1. Why was the TVIP-H normed only on monolingual children in Puerto Rico and Mexico, excluding bilingual Hispanic children on the U.S. mainland?

2. Why were the scores for children in Puerto Rico and Mexico combined into a single set of norms, instead of developing one set of norms based upon children in Puerto Rico, and another set based upon children in Mexico?

3. How desirable are international and local norms?

4. Does the TVIP-H meet accepted procedures for standardizing an individual psychometric test?

Monolingual versus Bilingual Norming Samples

To elaborate on the TVIP-H manual, for use on the U.S. mainland, there are good arguments for norming the test on monolingual

subjects, and also for norming it on bilingual subjects. If it is not possible to provide both sets of norms, because of restrictions in time, money, etc., then the advantages and disadvantages of each must be weighed to make a rational choice. From the point of view of TVIP users on the U.S. mainland, a strong case could be made for norming the TVIP on bilingual Hispanic Americans, on the grounds that norms should be based upon the performance of representative samples of subjects drawn from the same population as those who will be later tested with the standardized instrument.

If one accepts this logical justification, then it is clear that, for mainland U.S. users, the TVIP-H should have been standardized on bilingual children who live on the continental U.S. A major reason for not doing this was the data provided in Parts 2 and 3 of this monograph, especially as shown in Figures 2.3 and 3.6. In sum, bilingual children of Latin descent show more and more deficiency, with age, in Spanish vocabulary. Moreover, it was clearly demonstrated that, as a group, they were poor in both Spanish and English language skills. Although their English tends to improve some with age, their Spanish worsens a great deal as compared to that of their monolingual agemates in locations where Spanish is used almost exclusively. Yet had the TVIP norms been based on bilingual children, even though their actual performance slipped more and more with each increase in age, the standard scores would not have reflected this. At each age level, by definition of the term "standard score," the mean would have remained 100, with a standard deviation of 15 scale points.

It is important that every user of the TVIP-H be fully aware of what would have happened to a Hispanic-American child's standard scores, if bilingual norms had been used. The result would have been that, with increasing age, the standard scores of bilingual Hispanic-American subjects would <u>not</u> have reflected the fact that their Spanish vocabulary was lagging further and further behind that of their monolingual agemates. For example, had the norms been based on bilingual subjects living on the U.S. mainland, a child who obtained a standard score of 90 at age 6 would have continued to score 90 at all other ages, ignoring errors of measurement--even though his growth in Spanish vocabulary was very poor, compared to monolingual speakers of Spanish. THE NET RESULT WOULD BE UNWARRANTED COMPLACENCY ABOUT THE SPANISH-LANGUAGE PROFICIENCY OF HISPANIC MAINLANDERS.

In retrospect, it might have been wise to include two sets of norms: the major set based on monolingual subjects, and a supplementary set based on bilingual subjects. The advantages and disadvantages of such pluralistic norms were discussed in Part 2, when the SOMPA was described. Even if such norms are theoretically justifiable, however, there is a practical problem in obtaining them: namely, how does one clearly define the bilingual population to be sampled for purposes of such a standardization? The simplistic solution of including all persons with Spanish surnames in the norming process would lead

to essentially meaningless data. (More will be said at the end of this section about generating a set of norms based on bilingual subjects.)

Composite Norms Based on Combined Data from Puerto Rico and Mexico

After a careful, comparative examination of the test scores obtained by subjects in these two locations, the TVIP authors chose to publish a composite set of norms, based on the combined performance of children in Mexico and Puerto Rico, since these would not only be best for use with Hispanic children on the U.S. mainland, but also would offer more stability than separate norms for use in Puerto Rico and Mexico. Because of the principle cited earlier, however--that children who are tested with a standardized instrument should be compared with children from the same population--the separate norms for Mexico and Puerto Rico are also included in the manual.

As explained in the TVIP-H manual, there were two major justifications for combining the Puerto Rican and Mexican norms. First, the mean raw scores for the two groups, by age, were very similar, indicating that the two groups of children performed at essentially the same level. Second, combining the norms would create more stable values, especially for the few ages where differences did occur--before and after the compulsory school attendance years from ages 6 to 13 years.

The composite norms are appropriate for use for most Hispanics on the U.S. mainland because school achievement test scores of Puerto Ricans are not significantly different from those for Mexican Americans (see Part 2, where the preponderance of data presented suggest that these two subgroups achieve at about an equal level, with the Mexican Americans slightly ahead.) It is easier to justify separate norms for Cuban Americans than for Puerto Ricans or Mexican Americans; the possibility of developing local norms for this group is discussed at the end of Part 4. But the proliferation of pluralistic norms for the many Hispanic subgroups, especially for a test that will be used primarily on the U.S. mainland, would seem to have limited value unless significant differences in Spanish vocabulary and/or school achievement among the various groups can be clearly demonstrated.

Two last points on TVIP-H standardization need to be made. First, while we realize that it would have been desirable to base our TVIP-H composite norms on the proportions of Hispanics shown in Figure 1.1, this was beyond our resources. (Had children in Cuba and other Latin-American countries been tested proportionally, the TVIP-H norms would have set even higher standards as the frame of reference.) Second, using norms based on monolingual Hispanic subjects follows in the tradition of some other standardized tests used in the U.S. For example, the Latin American version of the ITPA (Von Isser & Kirk, 1980) draws subjects from a wide range of Latin-American countries (see Part 2).

Other Norming Options

Three other questions related to the issue of TVIP-H norms need to be discussed briefly:

1. How desirable are international norms? To deal with this question we must return to the basic principle that children who are tested with a standardized test should be compared with children from the same population. In the broadest sense, all people in the world belong to one society, and cross-national, comparative studies in such school subjects as mathematics are becoming more fashionable. But establishing international norms is, as yet, impractical logistically, even in such an area as mathematics. In developing the TVIP, it was established that there was a large pool of common Spanish words making up what is known as "universal Spanish." Yet even though Spanish is a widely used international language with a common pool of words, it is difficult to see the utility of international norms in such a subject as Spanish vocabulary, except to make international comparison, important as this would be.

2. How desirable for use in the U.S. are TVIP norms based on children living in Spain? As was pointed out earlier, if norms from the longer, more advanced version of the TVIP that was standardized in Spain (the TVIP-E; Dunn, 1986) are used, U.S. mainland Hispanics, as a group, will obtain even lower standard scores than on the TVIP-H. In fact, the scores will be so low as to be very discouraging. The user who wishes to compare Hispanic-American children against the higher standard of the more advanced Spanish spoken in and around Madrid may do so with the TVIP-E. Another obvious reason for using it in the U.S. is for research involving comparative studies across the various Latin subgroups shown in Figure 1.1.

3. How desirable and practical would it be to have TVIP-H state, regional, or local norms in the U.S.? This issue was briefly discussed in Part 3 in the review of the Kamphaus and Lozano project. Two pitfalls were cited regarding norms developed by one local school system. First, unrepresentative samples, obtained by using small numbers of subjects at each age level, can only result in distorted and meaningless norms. Kamphaus and Lozano used a range of 22 to 63 subjects per level, with an average of 40, which was simply not enough to prevent erratic changes in mean raw scores per age level. The generally accepted minimum is 100 subjects per age level. To cover the TVIP-H age range of 3 to 18 years, 1,600 children would need to be tested individually, which would be a very expensive norming project for any single school system, requiring the diversion of a great deal of psychometric testing resources. The motto should be, "Don't undertake to develop local norms unless prepared to do the job correctly." State or regional norms would appear to make more sense, since a larger number of examiners and other resources would become available.

The second powerful argument against local or regional norms is that it takes a great deal of sophistication and experience in test standardization to draw representative samples of subjects so the norms will not be distorted. A study of the chapter on test standardization in the technical manual for any well-accepted individual test will show how complex such a project is, if done correctly. Few local school systems have specialists in this area and, instead, must pay consulting fees to test publishers for such expertise. Some test publishers will provide consulting services to local and state school systems, and will analyze the test results and produce the norms. But this, too, is costly and questionable as an effective manner of spending the taxpayers' money, unless a good case for the utility of local norms can be made, including the inappropriateness of national norms.

While state, regional, and local norms for the TVIP would seem to be rather impractical, their desirability can be defended by pointing out again that pupils should be compared only with children whose course of study is similar to theirs. It can be argued that a Mexican-American child going to school in the lower Rio Grande valley will not compete with a Cuban-American child attending school in Miami. But this is a narrow perspective. Hispanic-American children, especially as adults, need to compete with a cross-section of Americans in their own age bracket. So, even though there is the potential of lowering standards for certain subgroups such as Cubans, a first priority would appear to be to develop national norms for bilingual Hispanic-Americans, as one homogeneous group. Perhaps the second priority would be to obtain separate norms for Cuban Americans, as a group. But, in conclusion, anything other than cross-sectional norms would appear to be mainly an unjustifiable expenditure of time, talent, and funds.

Evaluating the TVIP-H Standardization Procedures

Over the years, a joint committee of the American Educational Research Association, the American Psychological Association (APA), and the national Council on Measurement in Education has developed a set of Standards for Educational and Psychological Tests, published by APA. The latest version was released in 1985. Most test developers and publishers use these somewhat Utopian standards as their guidelines. Potential users of tests also would do well to use them to evaluate scales they may wish to employ. This section focuses on how well the TVIP-H meets two of the major criteria.

1. As already pointed out, in standardizing an individual test, 100 subjects per age level has been widely adopted as the minimum sample size. The TVIP-H is based on an average of 99 subjects per age level in Puerto Rico and 87 subjects per age level in Mexico. So, with the composite norms, a very adequate sample of 186 subjects per age level was attained. One can be less comfortable with the separate norms for Mexico, which were 13

percent below the minimum, but the Puerto Rican norms nearly met the standard.

2. Even more important than number of subjects tested per age level is proportionate representation within each age group. Ideally, and unrealistically, when national age norms are to be derived, random samples should be drawn nationally from each age group. Instead, attempts are made to represent the population proportionately by sex, geographic region, socioeconomic level, and educational status of the parents. Each of these variables is discussed here.

First, the easy criterion of equal numbers of males and females was met for the TVIP-H. (Boys and girls tend to perform equally well on the test, so there is no reason to provide separate norms by sex.)

The second goal, proportionate representation by geographic region, was not adequately attained in the standardization of the TVIP-H. In Mexico, all the subjects lived in Mexico City and vicinity, so essentially no rural children were included. In Puerto Rico, most of the testing was done in and around San Juan. This was a practical necessity because of time, money, and personnel, but it is a major weakness in the TVIP-H norms. Since urban dwellers tend to outperform rural dwellers on such tests as the TVIP-H, the effect would be to produce norms that penalize children tested later on the standardized instrument--their standard scores, percentile ranks, and vocabulary ages would be lower than their performance warranted.

The third criterion of having proportionate representation of the different socioeconomic levels was not reached for the TVIP-H. (Controlling for socioeconomic status is an indirect but fairly effective method of controlling for educational level of the parents.) In Puerto Rico, data on the socioeconomic status of the subjects were obtained, and a statistical weighting system was used to correct for the overrepresentation of high SES categories. In Mexico, the only method used to control for SES was to select schools randomly, when possible, but this was not done effectively at the preschool and post-elementary school levels. Overall, this resulted in too large a proportion of higher SES subjects, and not nearly enough subjects from the large, lower socioeconomic stratum.

When age norms are being developed, another important criterion is to draw representative samples of subjects from the total population, at each age level, not just children attending school. In the case of the TVIP-H, this standard was not adequately met at the preschool and high school levels. Except for a few preschoolers, all samples were drawn from children attending school. Over the compulsory school attendance years (elementary school), this worked quite well. But in large measure, only the middle and upper classes can afford to send their children to nursery school and kindergarten. And at the high school level, an even greater error arises because of the

high dropout rate at the end of the elementary school in both Puerto Rico and Mexico, with largely the poor and the less able quitting school as soon as permitted.

The effect of these three weaknesses--too few children from rural areas, from the lower class, and from outside school--is to distort the norms, cumulatively, in one direction. The effect is that all children, but especially preschoolers and adolescents, will obtain lower standard scores, percentile ranks, and vocabulary ages than would have been the case had more representative samples been used. No data are available to determine how much the derived scores will be depressed, but an educated estimate would be that the norms will range from 4 to 6 percent lower than they should be over the age range 6 to 12 years, and from 5 to 8 percent at the preschool and adolescent age levels.

It remains for future research in Puerto Rico and Mexico to uncover the effects on TVIP-H scores of urban vs. rural place of residence, of social class, and of school attendance at the preschool and post-elementary levels. In the meantime, although the TVIP-H norms should be viewed as somewhat more accurate for children ages 6 through 12 years than for those below or above that range, it must be kept in mind that smoothing to an overall curve of vocabulary development reduced these sampling errors considerably.

A Look at Possible Explanations for the Poor Performance of U.S. Hispanics on Standardized Tests

How does one best explain why Puerto Rican children, as a group, and Mexican-American children, as a group, perform so poorly on standardized tests of school achievement, scholastic aptitude, and language development? The data presented in Parts 2 and 3 demonstrated, beyond a reasonable doubt, that both of these Hispanic-American groups were very weak in all three areas. Furthermore, no areas of substantial strength were discovered. Listed below are five explanations for these results.

1. A few interpreters of the research literature have swept the evidence under the table by contending that psychometric tests are biased and therefore invalid for minority group children. Since Jensen (1980) and Clarizio (1982), among others, have demonstrated that they are not, one must conclude that this stand is largely an emotional and irrational defense reaction.

2. Many others have concluded that the negative results are due almost exclusively to bilingualism. This conclusion represents a common error of logic wherein one assumes causation from a correlation or relationship. The extensive, worldwide literature on the topic (see Cordasco's 1978 reprints of articles) demonstrate that many bilingual and bicultural ethnic groups, including persons of Germanic and Hebrew descent, score at least as well on intelligence, language, and school achievement tests

as monolinguals in the same ethnic group. Well over half of the people in the world today are bilingual, and there is growing evidence that adequate bilingualism facilitates, rather than hinders, performance on a variety of psychometric tests. But one cannot rule out bilingualism as a contributing factor in the case of Hispanics. More recent and sophisticated research has demonstrated that the level of proficiency in one or both of the languages is a key factor. For competent bilinguals, two languages facilitates; for incompetent bilinguals, they create confusion. For Hispanic-American children, with their inferior language skills, bilingualism is probably a contributing factor that helps to explain their poor test and school performance.

3. Low socioeconomic status and associated poor environmental conditions are also cited as contributing factors. As early as 1930, McCarthy pointed out that bilingualism in the U.S. is seriously confounded with low socioeconomic status. Only a few of the early studies controlled for socioeconomic level, or for level of proficiency in the two languages spoken by the subjects. Serious research design errors, indeed! Yet it is well established that levels of socioeconomic status (SES) and intelligence are closely correlated. For example, for the entire group upon whom the original WISC was standardized, mostly Anglos, the mean Full Scale IQ was 110.3 for children whose fathers were in the professional occupations, and 94.2 for those whose fathers were employed as laborers. This is a difference of one standard deviation, a very large group difference. But one must again be careful not to assume causation from correlation. Does a high IQ result in high SES, or vice versa?

Another environmental factor is related to the fact that most immigrants from Puerto Rico and Mexico come from rural areas and small towns. (Anastasi [1958, 1982] has researched differences in IQ scores for rural vs. urban subjects. Rural groups performed less well on intelligence tests than urban groups, the mean difference for Anglos in the elementary school grades usually being about 5 IQ points, increasing with age to almost double that for teenagers.) Mercer and Lewis (1979) have provided the best evidence available on the environmental factors among minority groups that contribute most to low scores on the WISC-R. Extrapolating from these data, it is probable that almost half of the 10- to 12-point standard score differential between Anglos and Hispanics is contributed by the low socioeconomic status of the Hispanics and the environmental factors associated with it, including lack of an adequate education on the part of the parents, poor health care, racial discrimination, and so forth.

4. While many people are willing to blame the low scores of Puerto Ricans and Mexican-Americans on their poor environmental conditions, few are prepared to face the probability that inherited genetic material is a contributing factor. Yet, in making a scholarly, comprehensive examination of the issue, this factor must be included. It needs to be recalled that seldom do wealthy, upper class, and better educated people emigrate from

Mexico or Puerto Rico to the U.S. However, while those who do come are usually poor and minimally educated, speak inferior Spanish, and come from rural areas and small towns, they can be considered to be the more ambitious and capable, so there is some balancing of the selection process.

While it is a very delicate and controversial topic, race, as a contributing factor, cannot be ignored. It is recalled from Part 1 that most Mexican immigrants to the U.S. are brown-skinned people, a mix of American Indian and Spanish blood, while many Puerto Ricans are dark-skinned, a mix of Spanish, black, and some Indian. Blacks and American Indians have repeatedly scored about 15 IQ points behind Anglos and Orientals on individual tests of intelligence. While generally equal or superior to Anglos and Orientals on the factor of memory, they lag behind in abstract reasoning and vocabulary. Yet vocabulary subtests tend to contribute more to general intelligence test scores than any other subtests.

For the reasons just cited, it is argued that it would be simplistic and irresponsible to contend that the 10- to 12-point IQ differential is due exclusively, or even primarily, to bilingualism, as has often been argued, or even to all environmental influences combined, including cultural incompatibility. Such naive contentions continue to abound, showing a complete lack of knowledge of the scholarly works of Vernon (1979) and Jensen (1981), among others, who have presented strong cases for the important role of heredity. After devoting much of his professional career to the study of the nature-nurture issue, Jensen (1981) concluded that, for Anglos, about 75 percent of intelligence is due to genetic factors and 25 percent to all environmental influences combined. To derive such a ratio for Hispanics it is necessary also to consider the influence of social class on IQ scores. The average correlation between SES and IQ scores, in most studies on Anglos, has been found to be only about .35. Therefore, based on these factors my best tentative estimate is that about half of the IQ difference between Puerto Rican or Mexican school children and Anglos is due to genes that influence scholastic aptitude, the other half to environment. But this conclusion will be modified slightly when an additional factor is considered.

5. What has been ignored so far in this discussion are motivational and personality factors, and these are serious influences that must also be taken into account. Unfortunately, this area of research has received relatively little attention, largely because of the difficulty in measuring such phenomena with any degree of precision. Some of the literature on this complex topic was reviewed by Martinez and Mendoza (1984). These reviewers claim that Latins in the U.S., as a group, are frequently labeled with such stereotyping terms as lazy and unambitious. But the accuracy or inaccuracy of these extreme generalizations are not established empirically. Whether it becomes a self-fulfilling prophecy for teachers of such children remains an open question. Yet the personality characteristics

and attitudes of Hispanics, as a group, must be factored into the equation. So the conclusion proposed at the end of the fourth explanation needs to be modified slightly. It would seem safer to say that about half of the 10- to 12-point IQ deficiency of Puerto Ricans and Mexican-Americans is due to inherited or familial factors, within the individual, that influence both intellectual and personality characteristics, and the other half to the environmental factors that have been cited.

But I must elaborate. In no way is a simple, unrelated dichotomy being suggested. Instead, an interactive phenomenon between the two areas is proposed as the best explanation for the poor test performance of Puerto Rican and Mexican-American children. The two clusters may be described as nurture and nature, or environmental and inherited, but probably other terms such as extrinsic and exogenous, or intrinsic and endogenous, would be less controversial and more accurate.

In any event, it is recognized that the many factors contributing to the poor test performance of Puerto Rican and Mexican-American children, as a group, interact upon one another in a very complex, and as yet not-well-understood, fashion. Injecting the "interaction phenomenon" into the explanation prevents the common error of assuming causation when only a relationship has been established.

A reader may well ask why such an attempt has been made here to explain the poor test performance of Puerto Rican and Mexican-American children, as a group. An easy, but unscholarly, route would have been to avoid this controversial issue. The discussion has been included in this monograph mainly to counter the prevalent extreme environmental approach, where essentially all blame is placed on social ills and school failures. If this is true, how can school teachers in the U.S. be doing such an outstanding job with Asian immigrants and such a dismal job with Hispanic immigrants? Deliberation on this question should caution the reader against extreme postures and simplistic blame placing. Although it is recognized that the schools have failed many Hispanic children, it should also be acknowledged that teachers are not miracle workers. Moreover, in planning school programs for Hispanics, educators and others should avoid grandiose plans that do not take into account both the strengths and weaknesses of such pupils, as a group. Some environmental extremists will complain that a pessimistic picture has been painted here. This is untrue. There is room for great improvement in how Hispanics are educated, but realistic approaches must be adopted. This topic is considered next.

Hispanic Children and Their Future Education

This last section is devoted to proposing appropriate educational strategies for the large numbers of Puerto Rican and Chicano children on the U.S. mainland who do so poorly in school. These strategies will be based, realistically, on their inferior

scholastic aptitude, their inadequate language skills in both Spanish and English, and their substandard school achievement, as well as the perceived personality characteristics of the parents and their offspring that have already been cited. Furthermore, the common good of American society, as well as the needs of the children, will be taken into account. The strategies are also based on the premise that 20 years of experimentation with so-called "bilingual education" has not worked well, and will not, even with further tinkering, and therefore, that it is time to abandon this movement in favor of alternate procedures that are likely to be more effective.

Types of Bilingual Education Currently in Use

To build the case, let's begin with an overview of the three major types of bilingual education that have been tried. Almost all the federal funds have been expended on these three approaches, or variants of them. In all cases instruction is provided in both Spanish and English. (A fourth type, commonly called the "full immersion approach," provides instruction almost exclusively in English and cannot accurately be called bilingual education. This strategy is discussed separately in a later section.)

Since 1968, almost a quarter of a century ago, federal funds have been available to state and local school districts for what is called "bilingual education." This has been seen as the major device to overcome the school deficiencies of Hispanic-American and other minority group children. With the widespread recognition that Hispanics do poorly in school, it is not surprising that alternate approaches to the mainstreamed, standard instructional approach have been advocated. A Ford Foundation paper (1984) and a book by Cafferty and Rivera-Martinez (1981) have outlined the legal and political roots of this movement, and the pedagogical and cultural issues and problems that have resulted. It is clear that the impetus for bilingual education came from the courts, and from political actions by Mexican Americans, including Chicano educators, rather than from mainland educators who represent the Anglo majority.

These pressures resulted in the federal government passing the 1968 Bilingual Education Act. By this act, the U.S. government first endorsed and funded bilingual education as a means of assisting minority language children to obtain equality of educational opportunity. However, it was not until the U.S. Supreme Court decision in the Lau vs. Nichols case in 1974 that bilingual programs expanded across the United States. This court ruling said that Lau, a young Chinese boy, must be educated in Chinese, at public expense, because he could not yet speak English. Of course, the ruling must be applied to all non-English-speaking pupils of school age, including Latins. It has opened an educational Pandora's box, and is considered by traditionalists to be one of the greatest blunders of the Supreme Court, one that could result in at least the partial

disintegration of the United States of America. By 1986, over $1.7 billion of federal funds, plus much more in the way of state and local taxpayers' money, had been spent on satisfying this requirement through three types of bilingual education:

1. Over 90 percent of the federal funds have been used for Transitional Bilingual Education (TBE). With this approach, Spanish is used first as the language of instruction for the child entering the first grade. Over the elementary school years, there is a gradual transition to English, and a phasing out of instruction in Spanish. To accomplish this, English is taught as a second language for part of the day until the pupil can get along in it. The key goal of the TBE approach is to prevent pupils from falling behind in the content areas while they are learning English. Until recently, the U.S. Department of Education has favored this approach.

2. The Modified Immersion Approach is sometimes called, undescriptively, the "alternate program" approach. With this strategy, the elementary school teacher, who is bilingual, instructs primarily in English, permitting the pupils to respond in either Spanish or English. The teacher usually replies in English. It is important to note that this is not a "sink or swim" approach, since bilingual teachers are available at all times. This program has grown in popularity, but only about 4 percent or so of federal funds have been spent on it. The major criticism of this strategy is that Hispanic children are segregated from the mainstream, under bilingual teachers. This approach is usually restricted to the primary grades, not extending beyond elementary school. In the U.S., almost universally, the language of communication and instruction at the high school level is English.

3. The Spanish Bilingual-Bicultural Maintenance Approach is sometimes called, euphemistically and ambiguously, the "developmental approach." A few persons, such as McLaughlin (1984), label it "reverse immersion." The key goal of this strategy is gradually to increase the speaking and writing skills of the pupils in English, while the emphasis is on maintaining and developing their native culture and language. English is taught only as a second language, often for a small portion of the school day, sometimes by a teacher who is monolingual in English, but usually by a bilingual teacher. So, throughout the pupil's school career, or at least through elementary school, content and cultural courses are taught in Spanish. Under the "maintenance theory" (or excuse), in extreme cases, some Mexican-American pupils are taught almost exclusively in Spanish by Mexican-American activist teachers, who repeatedly point out to the pupils that they are an oppressed group, and therefore obligated to assist in social change. With this focus, it is not surprising that these children are not prepared to switch over to English at the end of elementary school, and have not adequately mastered the regular elementary school subject matter. An estimated 3 percent of the federal funds have been expended on programs of this sort.

The Spanish maintenance approach has stimulated the most controversy. It is most vigorously supported by Hispanic activists who favor cultural pluralism. It is most vigorously opposed by traditional, non-Hispanic conservatives who see it as a threat by Hispanics not to assimilate. In his book Texas, Michener (1985) dramatizes the debate by means of his fictional characters, the school teacher, Señorita Enriqueta Muzquiz, and the professor of history, Roy Aspen, whom she considers a "racist pig." He lectures on the errors of bilingualism, pointing out the dangers inherent in establishing a two-language nation which may eventually result in separate Hispanic-dominated states along the Mexican border, or even a new nation between Mexico and the U.S. Señorita Muzquiz points out how oppressed and exploited Hispanics in the U.S. have been, how unjust was the seizure of former Mexican territory, how rich the Spanish and Mexican cultures are, and how important it is for Hispanics to have a Spanish-speaking state or nation that they control.

Opposition to this approach, in and out of government, has increased recently. Most who oppose it in the public schools would encourage Hispanics to maintain their cultural and linguistic heritage by a variety of means outside of school hours, such as by placing their children in private Spanish language schools later in the day or on weekends, so as not to conflict with attendance at public schools. Legally, all parents have the option of not sending their children to public schools, which are paid for by the general public, but instead sending them to private schools where the parents personally bear the costs. There is a strong tide of opinion that enhancing the Hispanic language and culture is a home, community, and church responsibility, not a public school responsibility.

Cafferty and Rivera-Martinez (1981) have made a strong case for the Spanish maintenance approach, based partially on the argument that Puerto Ricans especially, but also Chicanos, are circular immigrants, who in large numbers move back and forth between their homeland and the U.S. mainland. Therefore, they must be able to survive in two monolingual cultures. These authors cite the following dramatic statistics: Between 1950 and 1980, 250,000 pupils in Puerto Rico transferred to schools in New York City, while 200,000 pupils in New York transferred back to schools in Puerto Rico. This is in contrast to classical immigrants, who have no desire or plan to return to their homeland, and therefore strive, through education, to become assimilated as quickly as possible.

Cafferty and Rivera-Martinez are squarely against desegregation. They want Hispanics to have their own public schools, with their own teachers, who will emphasize the Hispanic language and customs, at the taxpayers' expense. The potentially disastrous consequences of this strategy cannot be over-emphasized, especially at a time when the Hispanic segment of the U.S. population is growing so rapidly. There is a parallel in Canada where, with a stroke of a pen on a treaty in 1763, the British took over from the French essentially all the territory they had

acquired in North America, but allowed the French-Canadians to retain their own language, religion, and culture. For over 200 years this agreement has been divisive, reaching its peak in 1967, when French President Charles De Gaulle, in his "Grand Faux Pas," encouraged Quebec, where French Canadians are a majority, to break away from the rest of Canada and establish its independence, or become affiliated with France. Throughout history, how many times has it been said: "It could never happen in this country."

One cannot ignore the valid point made by Cafferty and Rivera-Martinez that Latins are largely circular migrants. Especially for Puerto Ricans, who are American citizens, U.S. mainland schools would seem to have a responsibility for educating such pupils to function in schools in both locations. But the reverse can also be argued. Education is a state responsibility. Do the taxpayers of New York State have a responsibilty to pay to prepare Puerto Rican children to live in Puerto Rico? And as suggested in Part 1, perhaps Puerto Rico should change to English as the language of instruction, if that island hopes to attain statehood.

Forces are gaining strength in opposition to using a foreign language as the language of instruction, even if only initially, in the public schools of the U.S. For example, Guthrie (1965) studied the influences of, and reactions to, bilingual education in Little Canton, a small Chinese-American community near San Francisco. Her research tools were largely interviews and observations at King Elementary School and the community it serves. Not surprisingly, she found a divided school and community. A minority, mostly recent immigrants, favored a public school program to maintain Chinese. The majority, however, believed that public school instruction should be conducted in English, and that Chinese education should be the province of the Chinese private schools, the community, and the home. Besides parental discord, Guthrie discovered many conflicts in the schools that resulted in experienced and capable teachers quitting their jobs. There were, for example, debates about how to serve adequately the 20 percent of the pupils who were white, black, and Hispanic; resentment between teachers in well-funded bilingual classes and less adequately supported regular classes; and discord over how to meet the needs of American-born Chinese children who knew little Chinese, and foreign-born children who knew little English. So another major fault in bilingual education is that it creates dissension among parents and teachers.

Using questionnaire responses on 400 items from 292 Hispanics and 173 non-Hispanics, Grossman (1984) found that support for bilingual education ran the gamut from those very supportive of it to those very opposed to it. This report makes fascinating reading because it contains so many direct quotes. However, Grossman's simplistic conclusion, not based on even his data, that the reason Hispanic pupils do poorly in schools is primarily because they receive a culturally inappropriate education, hardly

deserves serious attention. Yet it is often mouthed by other equally uninformed persons. The reasons for the academic failure and high dropout rate of Hispanic pupils is far more complex than cultural incompatibility, as I hope I have clearly demonstrated in this monograph, and which Cummins (1984) carefully documents.

Like Asian-American leaders, a growing number of leaders of Latin descent have also taken issue with the concept of bilingual education. One outstanding example is Rodriguez (1982, 1986), a Mexican American. While his early years in school were tough for him and his family, he maintains he became proficient in English more quickly when immersed in an English-speaking school environment than if Spanish had been used at the outset. His conclusion about biculturalism is as follows:

> In the 1970's, some Mexican Americans lobbied for a new bilingualism, even for a bicultural America. Given the difficult past, this celebration of ethnicity should not have been very surprising. Some of the demands of Hispanic activists, nonetheless, have been careless. It cannot be in America's best interests to suffer linguistic fragmentation of its public life--voting ballots in several languages, classrooms linguistically segregated. It would seem not to be in the best interests of Mexican Americans to remain separated from the public life of America. (Rodriguez, 1986, p. 176.)

Important as opinion data are, they do not provide as compelling an argument against bilingual education as do statistical data on its ineffectiveness. According to evaluative reports by the American Institute for Research (1977) and by Baker and de Kanter (1981), there is little evidence that any of the three types of bilingual education has improved educational progress of Hispanic pupils significantly. And dropout rates for Hispanics still continue at 40 to 50 percent at the end of elementary school. While a number of serious problems with these two reports have been cited (Willig, 1981-82, 1985), it seems safe to conclude that their conclusion is sound. A strategy that does not work overall, of course, may be very effective for certain individual pupils. Nevertheless, advocates have had almost 20 years to make bilingual education work and become widely accepted. Neither has happened. These research results should come as no surprise. The scholastic ability of most Puerto Rican and Mexican-American children is too limited to succeed well in two languages, and to handle switching from one to the other efficiently. So surely it is time to turn to a more realistic approach to educating Puerto Rican and Mexican-American school children, based on their abilities and disabilities, and their need to succeed in American society and contribute to its strength. One option is the approach in which children are completely "immersed" in English while in school, which is discussed next.

"Complete Immersion"

This procedure cannot be considered bilingual education, because the children encounter only English at school as soon as they enter the regular grades. Instead, it is basically the traditional "melting-pot strategy" that worked so very well in the U.S. for over one hundred years. It is not perfect. Those who oppose it label it the "sink or swim, or submersion approach." This is, of course, irrational extremism, since immersion is never 100 percent. No qualified teacher would place a child in a sink-or-swim position, and there is no "total immersion" as long as the language of the home and community is primarily Spanish. Some writers use the term "immersion" for programs using bilingual teachers and "submersion" for those using teachers who are monolingual in English.

Under this plan, from their first day in elementary school, Hispanic children are fully integrated into the regular grades with the non-Hispanic majority. Teachers usually speak only English, and all instruction is in English. Students respond only in English. In this way, they are expected to learn English through immersion in an English-speaking environment.

Few advocates of bilingual education favor a return to this policy, which they call "Americanization at all costs." Nevertheless, since educators have been known to reinvent the wheel, I shall now present some anecdotal reminiscences about my early teaching in the 1930s in western Canada, when very few of my beginning first grade pupils entered school with appreciable skills in English. My biases will be readily apparent, and are acknowledged, since it is my thesis that Spanish should remain, at most, the language of the home and street for first-generation immigrants, while English is developed as the language of the public schools and broader community. This is because most Puerto Rican and Mexican-American children do not have the scholastic aptitude or linguistic ability to master two languages well, or to handle switching from one to the other, at school, as the language of instruction. It is, therefore, necessary to keep a single focus at school, and that focus must be on English in order for these children to succeed in American society.

Here is the vignette:

> Recently, a group of us former Canadian school teachers met to reminisce about our early teaching experiences on the prairies. We had all entered teaching as WASPS who spoke only English. Our teacher training consisted of one year beyond high school at a Normal School. During the 1930s, each of us taught in one-room, multi-graded, rural schools that served, almost exclusively, children of foreign extraction. Ethnic groups represented were French, German, Ukrainian, Hungarian, and Romanian, but usually only one or two foreign languages were represented in any one school district and community.

The language of the home was the foreign one, the parents being mostly first-generation Canadians. The children entered school at age 6, usually completely monolingual. They were immersed in an English-speaking environment at school, both in the classroom and on the playground. Older brothers and sisters were allowed to translate or otherwise use the home language only in an emergency. The primary goal was to learn English as quickly as possible. Almost without exception, the children became bilingual by the end of their first year--with only a hint of a foreign accent. They did not confuse or mix their two languages. The primary speech model and standards were set by the teacher, and the expectations were high. By the third grade, essentially all of these children were speaking excellent English and achieving at or above grade level in their academic subjects.

The method of immersion was a multi-faceted, simultaneous approach to teaching oral and written English. Everything possible in the classroom was labeled in print. The children were taught a practical vocabulary. Then they were shown how to use it in both oral and written language, and through carrying out commands, such as "go to the window." While short sentences were taught from the outset, there were also phonic drills on the 44 speech sounds of English. Exercise books and chalkboards were used extensively, along with drill cards.

By Christmas of their first year in school, most of the children had learned to speak, spell, and print enough English words, and to use them in simple sentences, that they were ready for first-grade readers. We felt they learned a great deal by listening to us teach their older sisters and brothers. The older siblings served as tutors or teacher's aides, drilling their younger siblings at home and at school on the oral and written English exercises that had been introduced by the teacher. The parents provided strong support for this immersion approach. Even the slow learners learned to speak English quite quickly, and quite well, although the same could not be said about their achievement in the subject matter areas.

The question arises of whether this immersion approach, with some modification, would work today for the majority of Puerto Rican and Mexican-American children on the U.S. mainland. Beginning children would need to be grouped with some agemates, and/or second and third grade children, who had at least a fairly good command of English and Spanish. Before the immersion phase, the

children would probably need to have attained an adequate command of Spanish, presumably through pre-first grade education, since evidence was presented earlier in this article on the need to develop proficiency in one's native language before undertaking English as a second language. Some might not be ready for English immersion until they are beyond 6 years of age.

The research generated by the Canadian experiment at Montreal, in which English-speaking young children, upon entering kindergarten, were immersed in a program where French was the language of communication and instruction, is frequently cited as support for a similar immersion program for Hispanic children in the U.S. This research is reported in Lambert and Tucker (1972), and reviewed in Cummins (1984) and McLaughlin (1984). Usually with equal success, it has been replicated in a number of provinces of Canada. For example, Gray (1985) recently evaluated a similar program in New Brunswick. Generally, the results have been consistent and very good. The children in the early immersion programs not only learned French quickly, but their English was not worsened. In fact, their native language benefited from learning French as a second language. Rather consistently, the PPVT in English and a French translation of it have been used as one measure of vocabulary growth. Furthermore, these children achieved as well in mathematics and social studies as a control group, even though the test group were instructed in these subjects in their second language and tested in their first.

Based on this success story, American educators increasingly argue for a similar immersion program for Puerto Rican and Chicano children. While there is value to making a data-based policy decision, some cautions are in order. First, unlike most Hispanic-American children, the initial subjects in the St. Lambert (Montreal) project were offspring of upper class, well-educated families, most affiliated with McGill University. By the time they entered kindergarten, they were very proficient, for their age, in their first language. Second, this was a volunteer program that enjoyed outstanding parental support and encouragement. Third, while the children came from English-speaking homes, French was the major language of the larger community. Follow-up studies are showing that the children developed a somewhat "pidgin" form of French which faded unless used. A few children were reluctant to interact with native-speaking French-Canadian children because they felt their language skills were inadequate, even though test scores did not indicate this. Canadian immersion programs enroll almost exclusively Anglos, with few, if any, of the pupils being of French descent.

The New Brunswick project (Gray, 1985) followed their children for several years. The researchers found that early entry into the program--in kindergarten, rather than first grade--was beneficial. By the ninth grade, those children who started the immersion in kindergarten showed a one-year advantage in French reading and language arts scores over the children who started in

first grade.

But there is an even more compelling argument for not expecting the Canadian immersion results to be replicated with Hispanic-Americans. This has to do with the underlying abilities of the English children, and the underlying disabilities of most Puerto Rican and Chicano children who, as a group, are slow learners, have low socioeconomic status, and are often discriminated against. Above all, they enter school with poor Spanish-speaking skills. Furthermore, the reader needs to keep in mind the results of early research, reported at the outset of Part 2, covering a time when the immersion programs dominated and before federal bilingual education funds and programs were available. The Hispanic products of the schools, in those days, had about the same mean test scores as today, so immersion programs didn't work very well back in those days. This does not suggest that these programs be rejected; in fact, this monograph proposes their use, with supplemental services, as the best alternative. But one must be very realistic about how proficient Hispanic pupils who go through such a school program are likely to be upon leaving school.

While the available research, the limited abilities of Puerto Rican and Chicano children, and my early teaching experience lead me to conclude that a school immersion program in English would best serve these young people, I realize that others will be lead to make other choices. For example, most Hispanic activists will push for the bilingual/bicultural maintenance approach using the circular migrant, the cultural mismatch, the importance of communication with parents and grandparents, the need for independent political status, etc., as logical and valid arguments. But the selection of any one of the above strategies, including my choice, has a basic flaw. It assumes that there is one best approach for all Hispanic children, and this, in my opinion, is nonsense. While one method of group instruction might be best for the majority of pupils, it will be unsatisfactory for others. Therefore, it is argued that the ideal would be to have a program designed to fit the unique characteristics and needs of each individual Hispanic child. Since this is impractical and therefore unrealistic, it is necessary to devise procedures that come as close as possible to this Utopian strategy.

Educators of Hispanic children might well use the special education model to devise a workable plan. As a person who has devoted much of his professional career to education for the mildly handicapped, and who has rejected many of the special education disability labels and segregated school placement panaceas, especially for minority group children, I see a rather close parallel between the fields of education for the mildly handicapped (the so-called learning disabled and educable mentally retarded), and education for Hispanics. Both areas could learn from one another, perhaps even joining forces where and when appropriate. Both groups represent minorities who are failures in the regular grades. Already textbooks on

bilingualism and special education (e.g., Cummins, 1984) are appearing.

While special education is far from perfect, it does have some features that would appear to hold great promise in education for Hispanics. One is the case study, or diagnostic/prescriptive, teaching approach. A thorough study is made of each child, and his or her family and home, with a view to developing the most appropriate school program for that particular individual. A key ingredient in each child study would be a battery of psychometric tests, of which the PPVT-R in English and the TVIP-H in Spanish would seem to be logical and useful inclusions. Family characteristics, plans, and wishes should also be top-priority considerations. For example, as long as the Lau vs. Nichols Supreme Court ruling is the law of the land, even after counseling on the lack of wisdom of such a procedure, minority-group parents can insist that their young child be instructed in the academic subjects using the language of the home until the child develops sufficient English-language skills for that to become the language of instruction. In consultation with the family, the school representative should draw up a tentative Individual Educational Plan (IEP) and this should be agreed to by all, as a contract between the home and the school. To uncover other examples of special education procedures that could be adopted for Hispanic-American children, the reader should consult Cummins (1984), plus college textbooks on teaching the learning-disabled.

Concluding Comments

As a result of this fairly extensive review of the literature, here are ten guidelines that represent my best advice for educating Puerto Rican and Mexican-American children on the U.S. mainland who are having trouble at school, especially offspring of first-generation immigrants:

1. Primarily because of their inferior Spanish language skills, beginning at age 3, those for whom Spanish is the main language of the home need to be enrolled in quality nursery and kindergarten programs (not daycare operations) where oral Spanish is emphasized, with a special focus on building vocabulary. In addition to the teacher, good models in the form of older children and better-educated community volunteers must be provided. Spanish translations of the Peabody Early Experiences Kit (PEEK; Dunn, Chun, Crowell, Dunn, Alevy, & Yackel, 1976) and Level P of the Peabody Language Development Kits (PLDK; Dunn, Horton, & Smith, revised in 1981) would appear to be very helpful supplementary tools of instruction. (Teachers are encouraged to make their own Spanish translations of the PEEK and PLDK lessons, as these are currently available only in English.) Tutoring for children in need of extra help should be provided. Progress should be monitored with an array of measures of Spanish oral

language skills, including the TVIP-H.* At the preschool stage, English should be completely avoided.

2. Primarily because of their lack of intellectual, scholastic, and language aptitude, but also for many other reasons that have been enumerated in this report, it is clear that these children are not, as a group, able to cope with the confusion of two languages in the regular grades. Therefore, at age 6 or shortly thereafter, most of them need to be enrolled in a school program where they are immersed (but not "submerged") in English as the language of communication and instruction, preferably with a mix of older Hispanic and other pupils. One of the best ways to stimulate slow pupils to work up to standard is through heterogeneous, rather than homogeneous, grouping, where there are strong role models and competition. Segregated Hispanic schools and classes, especially by age levels, are invitations to failure. In emergencies, a child must be able to use Spanish to communicate his needs or lack of understanding. This does not require that teachers be bilingual. Instead, older pupils or those more efficient in English would translate for the younger children.

In fact, there is no clear evidence that a bilingual teacher is superior to a teacher who is monolingual in English, or vice versa. What is needed is a master teacher. A strategy which simultaneously stresses oral and written language should be the first emphasis; academic instruction should be added as soon as sufficient competency in English is acquired. In the language of instruction, pupil progress should continue to be monitored and unsuccessful teachers transferred to other positions or jobs. It is extremely important that tutoring be provided for children in need of extra help. In the primary grades, Level 1 (Dunn, Smith, & Dunn, revised in 1981), Level 2 (Dunn, Dunn, & Smith, revised in 1981), and Level 3 (Dunn, Smith, Smith, & Dunn, revised in 1982) of the Peabody Language Development Kits should be very helpful in stimulating both oral English and reasoning skills.

3. For Hispanic parents who insist, because of the Lau vs. Nichols Supreme Court ruling, children must be provided with tutoring in the academic subjects in Spanish, preferably outside of regular school hours, until their English skills are advanced enough to be used as the language of instruction. Here compromises will be needed among home, school, and national goals. Research has rather consistently demonstrated that delaying, for even a few years, formal academic instruction until the child has developed sufficient language and thinking skills does not result in lasting negative effects in school achievement. Tutoring, modeled after traditional home insruction in special education, should meet the legal requirements. (Most

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*Some professionals would argue cogently that English be started as early as age 3. The effectiveness of this strategy versus mine needs to be researched.

of us old-time teachers have volunteered to tutor children with learning problems before and after school, and on Saturdays, to help bring them up to standard; it is hoped that this tradition is retained.)

4. It should be the responsibility of Hispanic parents, church, and community to provide private instruction to maintain and foster the Spanish language and Hispanic culture of the Puerto Rican and Chicano children beyond age 5, if this is wanted.

5. High but realistic expectancies and standards need to be set for the Puerto Rican and Chicano school children, higher than in the past. For those whose grades lag, additional help needs to be provided in the form of motivational counseling, tutoring by teachers and by older and/or more capable pupils, and so forth. But equally important is to use a combination of inducements to succeed, including the withdrawal of privileges. Social promotions through the grades should be kept to a minimum. Summer school and other programs should be used for make-up work.

6. Because of the stereotype that all Puerto Rican and Chicano children are slow learners, it is extremely important that a screening program for identifying those with good potential to succeed be established early, and continued so that late bloomers are not overlooked. Capable youngsters need to be put on a fast track to success.

7. Because of the excessively high dropout (or pushout) rate of Hispanic students at the end of compulsory school attendance, which often reaches 40 to 50 percent, it is essential that ways be found to motivate these youth to continue into high school and beyond. The early identification and fostering of talents is the best preventive measure. "Magnet" high schools also appear to have succeeded. Technical high schools and junior colleges are other examples for the many youth who can profit from them. Duran (1983) and others have identified a number of reasons for why Hispanic students drop out of and/or fail in high school and college, and what can be done to alleviate this situation.

8. Because so many Hispanic parents are poor, uneducated, and often even illiterate in Spanish and English, more and better adult education offerings need to be made available to them. In itself, availability is not enough. Because of their negative attitudes toward schooling, inventive motivational procedures will need to be devised and implemented to encourage them to go back to school as adults. This is an important element in a total-push program toward higher achievement by Hispanics.*

9. The need for improved measuring instruments and additional research cannot be stressed too strongly. One of the sound aspects of Hispanic education is that a sizeable body of

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*See Addendum #2 on page 80 for additional information.

scientific literature has accumulated over the years. In the future, more and better research is needed, because this field is especially susceptible to politically motivated interpretation, ethnic advocacy, and emotional appeals.

10. Federal funds should be shifted from basic support for bilingual education to the costs of additional research and professional training, psychological services to identify capable Hispanic children and to monitor pupil progress, and tutorial service for children of parents demanding instruction in Spanish, based on the Lau vs. Nichols Supreme Court decision, as long as it remains a law of the land.

In my opinion, implementation of these ten recommendations, with compromises and adjustments, will go a long way toward improving educational opportunities for the large majority of Mexican-American and Puerto Rican children in the U.S. who come from impoverished backgrounds.

For too long, analyses of the lack of school success of this fastest-growing minority group have emphasized the failure of the educational system to serve them. While there is enough blame to be shared, judging from the overwhelming and consistent data presented in this monograph, it would be more correct to point out that these Hispanic pupils and their parents have also failed the schools and society, because they have not been motivated and dedicated enough to make the system work for them. In spite of some weaknesses, it is widely recognized that the U.S. has one of the finest educational systems in the world, one that has functioned extremely well for most of the children of this nation, including recent Asian-American immigrants. The products of our schools are world leaders in many fields of endeavor, having been awarded more than their share of Nobel and other awards. Over the years, to a considerable degree, it has been the millions of immigrants who have sacrificed so that their offspring could acquire the education they needed to help shape and advance American society, a society unique in its diversity and unlimited in its opportunities.

Surely it is time to stop teacher bashing. Never before has it been so difficult to recruit capable young people, especially women, into the teaching professions. Not only is this due to the lack of support, but also because of the many other, more attractive occupations that have opened up to young women. Let's provide the funds to extend services to Hispanic children along the lines suggested above. At the same time, let's stop blaming each other for the ineffective efforts of the past. For our continued advancement as a nation, it is essential that people of Latin descent, as a group, work far more strenuously than in the past to attain a quality education, commensurate with each individual pupil's abilities. Only in this way will the members of this ethnic segment of society adequately share in the American life and contribute to the advancement of the American people.

ADDENDUM #1

Since releasing this bulletin for publication, more recent national statistics on the school achievement of Hispanic-American pupils have been found in:

Plisko, V. W., & Stern, J. D. (Eds.) (1985). The condition of education: 1985 edition. Washington, DC: National Center for Educational Statistics, U.S. Department of Education.

The findings are based largely, but not completely, on National Assessment of Educational Progress (NAEP) studies conducted by the Educational Testing Service. Only a few highlights from the U.S. Department of Education reports can be presented here. They are as follows:

1. With regard to Hispanics, little of major significance appears to have changed since Coleman and his associates conducted their national survey in the 1960s.

2. The reading proficiency of black and Hispanic pupils in grades 4, 8, and 11 is far below the national average, with blacks achieving at a higher level than Hispanics. The average performance of Hispanics in the nation as a whole slips further and further behind the performance of non-Hispanics as the children advance through the grades. A relationship was found between reading performance and time spent watching television, amount of homework done, and language of the home. Children in Spanish-speaking households did not read as well as other pupils.

3. About one-third of all blacks and Hispanics graduating from high school (remember, these are select groups) obtained "D" and "F" grades in all basic academic areas, namely, English, mathematics, natural sciences, and social sciences.

4. Based on the test performance of high school sophomores in reading, science, and mathematics, substantial racial/ethnic group differences were found. Generally, blacks, Hispanics, and American Indian/Alaskan native groups were at the bottom, and whites, Asians, and Pacific Island groups were at the top, with a huge gap separating these two clusters.

5. The most remarkable change since Coleman and his associates conducted their national survey in the 1960s is that Asian Americans are now outperforming non-Hispanic whites in school achievement by the time they are sophomores in high school. There is strong evidence that Asians are succeeding very well, indeed, in our public schools, while Hispanics are failing in these same public schools.

ADDENDUM #2

As a result of the following article, I have deliberated further on this set of recommendations to improve the school performance of Hispanic-American children, and gathered a modest amount of additional information:

Butterfield, F. (August 2, 1986). "Are Asian-American kids really smarter?" New York, NY: The New York Times. (For an abstract, see the January, 1987, issue of The Reader's Digest.) The more I examined the evidence, the more convinced I became that the major source for overcoming the lack of school success of Hispanics rests squarely with the people themselves, and more specifically, with the parents. In my view, none of my suggested strategies, or any others, for that matter, will succeed unless there are dramatic changes in the child-rearing practices of Hispanic mothers and fathers.

Hispanic parents have much to learn from Asian-American parents. To verify what Butterfield reported, I informally interviewed, here in Honolulu, a number of Asian parents who are recent immigrants, asking about their priorities and their child-rearing practices. (In Hawaii, whites are a minority.) While exceptions are bound to exist, an almost universal pattern emerged which is consistent with that found by Butterfield. The following are examples:

1. About the importance of education, parents of recent Asian descent said:

> "Education is the number one priority in our home."
>
> "A good education for our children is more important than food, shelter, pleasure, religion, or even the acquisition of money and concern for relatives."
>
> "First a good education; a good job then follows."
>
> "Knowledge is power."

This value is taught by example and by family discussion. This is not a new attitude. Apparently it has existed for generations. It is a tradition that Hispanics in general do not appear to have.

2. About home study, Asian parents ask daily: "Do you have any homework?" If the answer is yes, a specific and regular time (usually two hours or so after the evening meal, each school night) is set aside to do it. If the answer is no, the children are required to study. Everyone in the house is expected to keep quiet while the children do this work. No radio or television is turned on. Parents help with and/or show an interest in what is being studied.

3. There is rather strict discipline in the home, and a commitment to uphold the family honor. For example, watching television on weeknights is generally not permitted. Parent permission is required for play, visiting with friends, and so forth. Generally, Asian children are expected and required to stay close to home, and not to behave in ways that will bring shame to the family. They are monitored closely.

4. The oral language of the home is generally not English for most of the recent Asian immigrants, nor do most have high socioeconomic status in the community or a high level of education. None of those I interviewed belonged to the intellectual and professional elite in their countries of origin. Now they are barbers, maids, yard workers, handymen, cooks, and so forth.

In contrast to Asian Americans, Hispanic Americans do not appear to place as high a value on education, and do not instill in their children as intensive a work ethic. How to get Hispanic parents to change their attitudes and practices toward the value of education and scholarly study is beyond the scope of this review, but its importance cannot be overemphasized. Until Hispanics see the benefits of a good education, and are prepared to sacrifice and work hard to attain it, there is little likelihood they will advance on the ladder of success in this country, and nothing the school does is likely to change that prediction. It is time for the Hispanic people to stop blaming teachers for their own lack of school success and other troubles, and set about working harder to obtain a quality education for their children.

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